

TOSHIBA

OWNER'S MANUAL

COLOR TELEVISION

CX32C80

CX32C81



SET UP

PREPARATION

BASIC OPERATION

ADVANCED OPERATION

EQUIPMENT
CONNECTIONS

REFERENCE SECTION

Dear Customer

Congratulations! You have purchased one of the finest Color TV's on the market!

This manual will help you use the many exciting and useful features to make your TV viewing more enjoyable than ever before.

Before operating your TV set, please read all these safety and operating instructions completely and then retain for future reference.

Customer's Record

You will find the model number and serial number on the back of your TV set.

Record these numbers in the spaces provided below. Refer to them whenever you call upon your TOSHIBA dealer regarding this product.

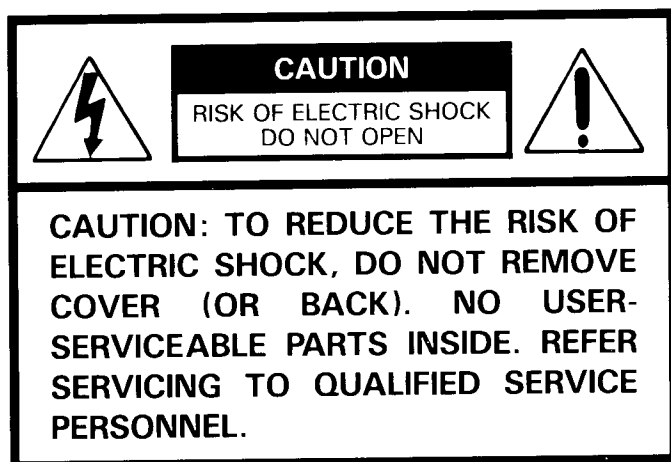
Model Number _____

Serial Number _____

SAFETY PRECAUTIONS

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



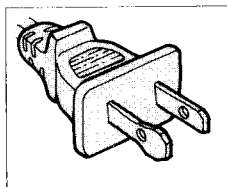
The lightning symbol in the triangle tells you that the voltage inside this product may be strong enough to cause an electric shock. DO NOT TRY TO SERVICE THIS PRODUCT YOURSELF.



The exclamation point in the triangle tells you that important operating and maintenance instructions follow this symbol.

CAUTION:

As a safety feature, the AC plug has one prong wider than the other. It will fit only one way into a standard electrical outlet. If the plug will not fit into the outlet, try turning it around. If the plug will not fit either way, the outlet is probably old and non-standard. You will need to have a new outlet installed by an electrician.



DO NOT CHANGE THE SAFETY FEATURE OF THE PLUG.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE PRONGS CAN BE FULLY INSERTED INTO THE OUTLET TO PREVENT ANY EXPOSURE OF THE PRONGS ON THE POLARIZED PLUG.

NOTE TO CATV SYSTEM INSTALLER:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

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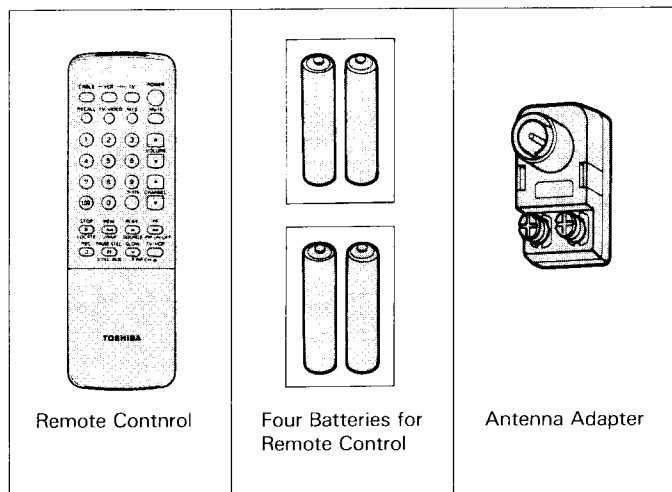
INSTALLING YOUR TV SET

WARNING: Do not place the TV on an uneven floor or on an unstable stand. The set may overturn, causing serious injury to you or your children. Take care that your children do not get on the TV or hang on to it.

UNPACKING

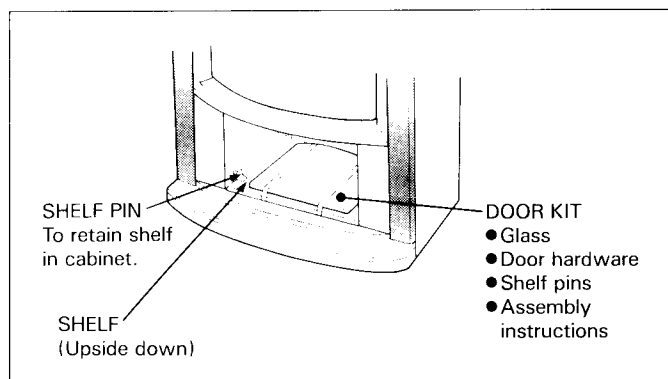
When you unpack the TV set, be sure you have removed all the accessories (shown below) and information sheets that come packed with your set.

SUPPLIED ACCESSORIES



GLASS DOOR ASSEMBLY

The glass doors are packaged on the shelf as shown. Assemble the glass doors following the assembly instructions enclosed in the Door Kit.



LOCATION AND POWER SUPPLY

DO NOT:

- Place your TV set in a room where direct lighting strikes the screen.
- Place your TV set too close to a wall, in a confined area or in a very warm location.
- Change the plug's safety prong.

DO:

- Use soft and indirect lighting.
- Sit at least 6 feet away from the set.
- Provide normal air circulation for reliable long life.
- Plug into an electrical outlet with standard house power. (120 volt AC, 60Hz)

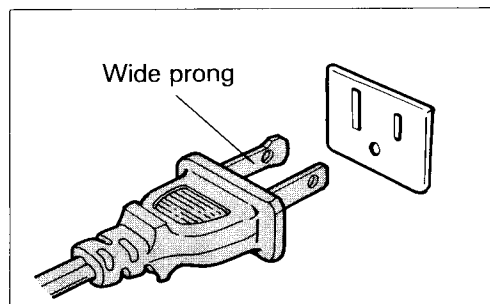
To Insert the Plug

As a safety feature, the plug has one prong wider than the other. It will fit only one way into an outlet.

DO NOT CHANGE THE SAFETY FEATURE OF THE PLUG.

Safety Notes

Should any liquid or solid object fall into the cabinet, unplug the TV and have it checked by qualified personnel before operating it any further.



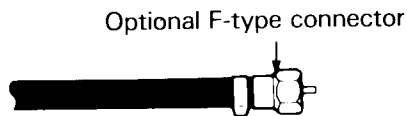
ANTENNA/CABLE TV GENERAL INFORMATION

You can use either an indoor or outdoor antenna to receive VHF and/or UHF channels. Channels 2-13 are VHF channels, and channels 14-69 are UHF channels. We recommend using an outdoor antenna for better picture quality. You can receive Cable TV by connecting a cable supplied by your local cable company. Cable TV delivers both VHF and UHF channels and other channels not available from your antenna.

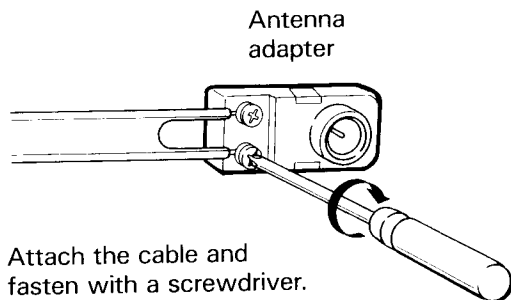
TYPES OF ANTENNA CABLES

Shown below are two basic types of antenna cables. Signals from a home antenna may be conducted through either type. Cable TV signals will always be conducted through 75 ohm coaxial cable.

1. A 75 ohm system is generally a round cable with F-type connectors that can easily be attached to a terminal without tools.

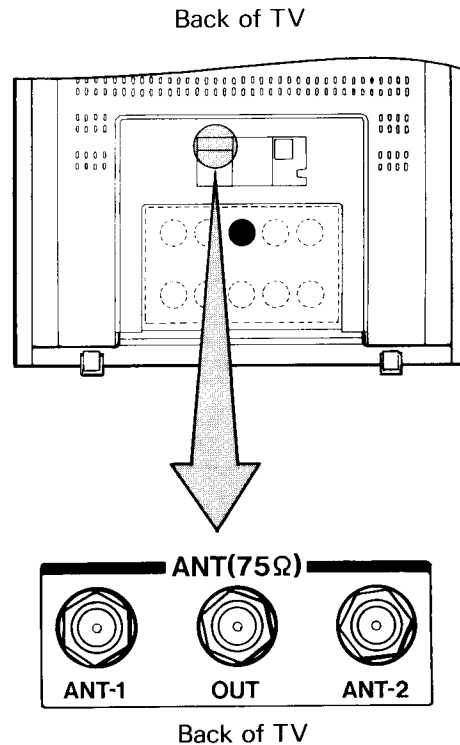


2. A 300 ohm system is a flat "twin-lead" cable that can be attached to a terminal through an antenna adapter supplied as an accessory.



ANTENNA CONNECTION PANEL

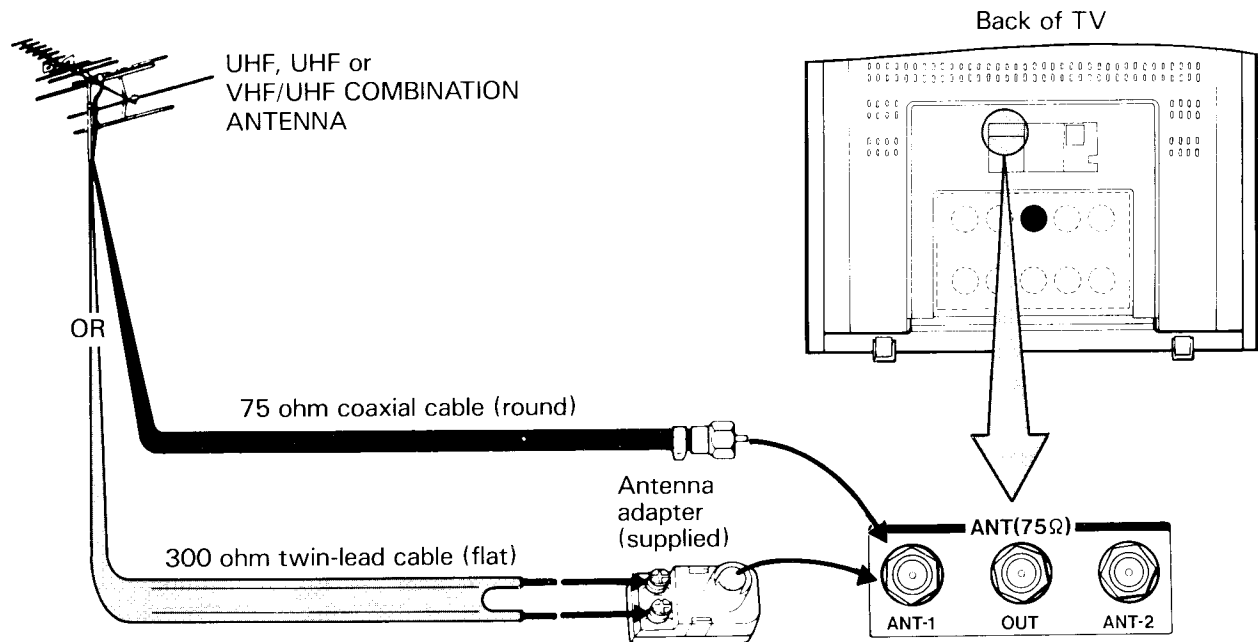
There are two separate 75 ohm F-type connector terminals and a converter output terminal as shown below.



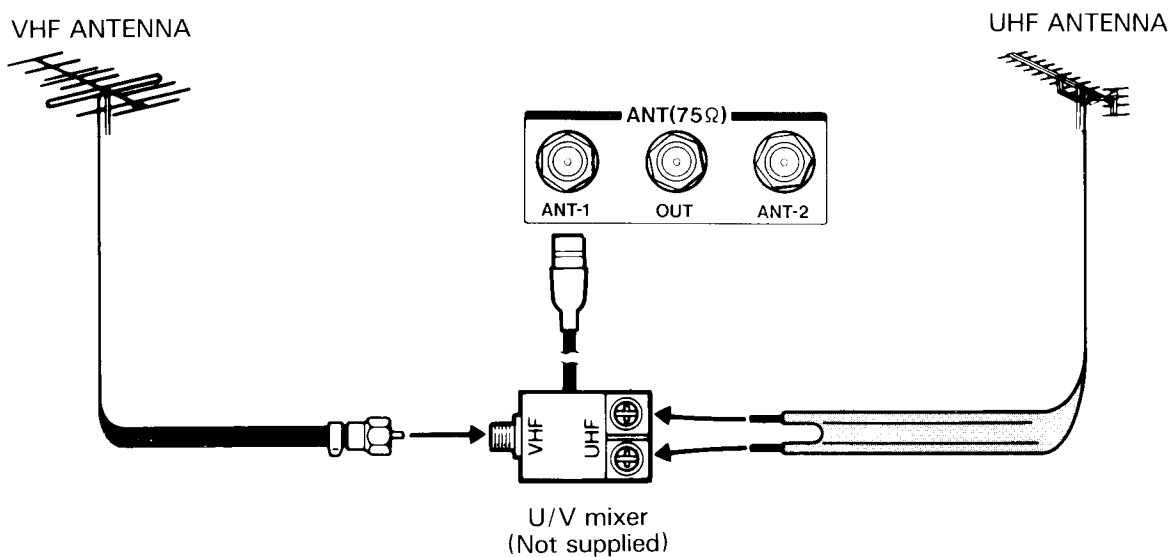
The ANT-1 and ANT-2 terminals are for connecting VHF/UHF antenna or Cable TV system. The signal which comes in on the ANT-1 also goes out of the OUT terminal whenever the antenna switcher in the TV is in the ANT-2 position. You can switch between the ANT-1 and ANT-2 positions by pressing the ANT 1/2 button on the Remote Control or the ANT/VIDEO button on the TV set. See page 23.

HOME ANTENNA CONNECTION

Connecting a single lead-in cable



Connecting both VHF and UHF lead-in cables



Note: You can connect another signal source like a Cable TV system or video game to the ANT-2 terminal.

CABLE TV CONNECTION

Generally, the incoming cable for a Cable TV system can be connected directly to the TV antenna terminal just like a home antenna connection. Simply attach it to the ANT-1 (or ANT-2) terminal. You will be able to receive unscrambled cable channels.

Cable without a decoder box (Unscrambled channels)



Note: You can connect another signal source like a home antenna or video game to the ANT-2 terminal.

Some cable companies offer "premium pay channels". Since the signals of these premium pay channels are scrambled, a cable TV converter/decoder is generally provided to the subscriber by the cable TV company. This decoder box is necessary for normal viewing of the scrambled channels. For more specific instructions on installing cable TV, consult your cable TV company.

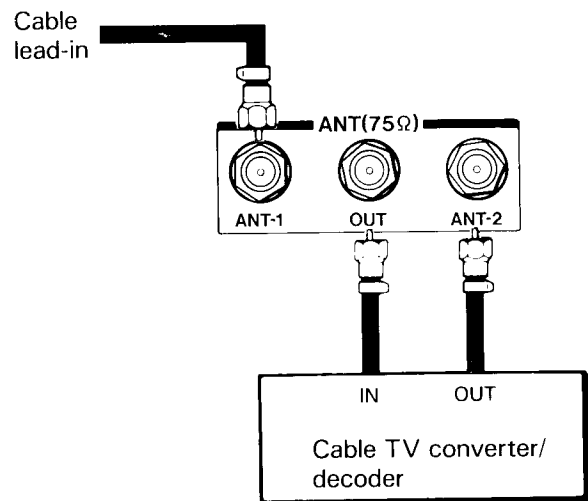
Cable with a decoder box (Scrambled channels)

You can choose between viewing unscrambled channels and scrambled channels by pressing the ANT 1/2 button or the ANT/VIDEO button. See page 23.

Unscrambled channels will come thru the ANT-1 terminal when the "ANT 1" mode is selected.

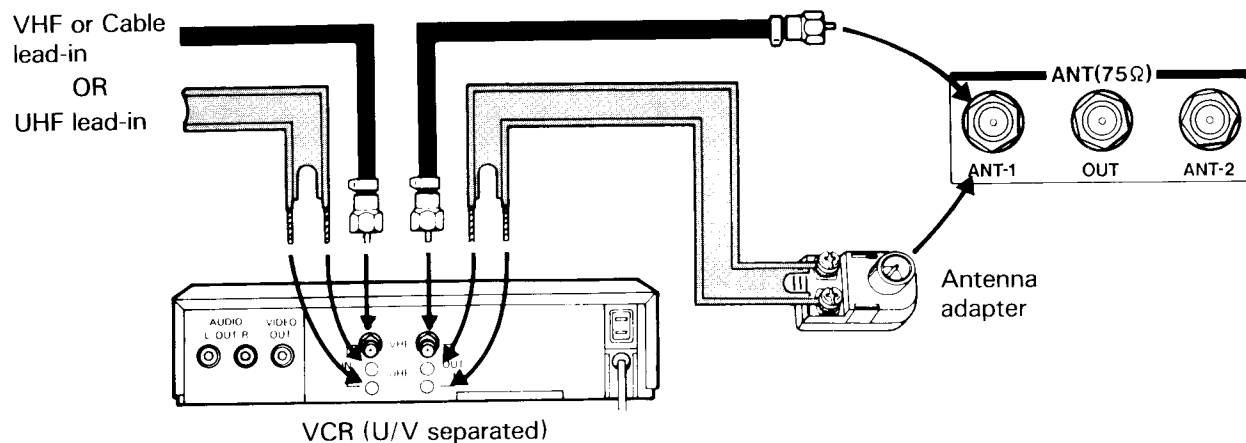
The scrambled channels from the decoder box will come thru the ANT-2 terminal when the "ANT 2" mode is selected. Place your TV on channel 3 or 4 to match your converter's output channel and select channels using the converter's channel keys.

Note: The descrambler device may or may not be a part of the cable converter.



ANTENNA/CABLE TV AND VCR CONNECTIONS

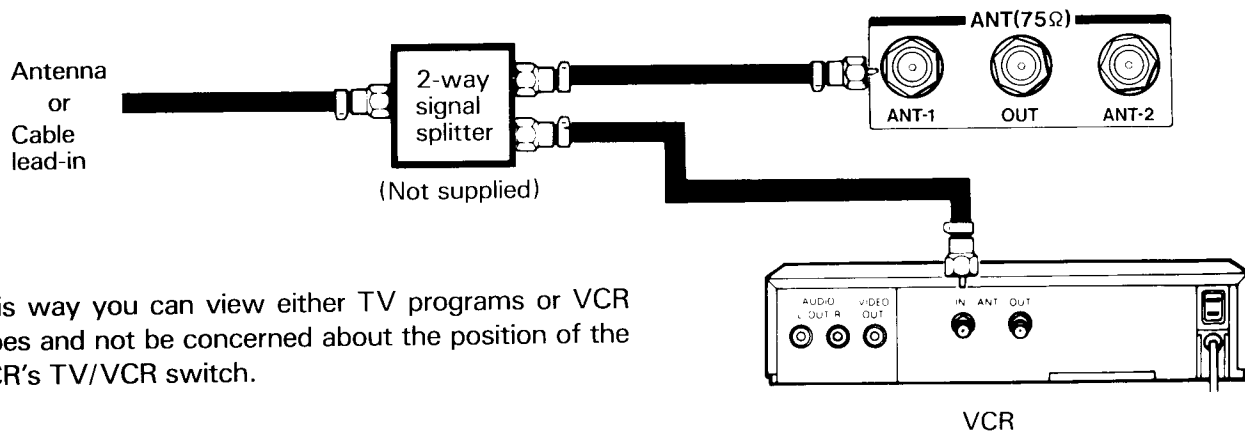
Antenna/Cable connection via VCR (simplified method)



Note:

- On many VCR's, playing tapes causes the VCR's TV/VCR switching to disconnect the antenna signals from the TV. If you cannot select a certain channel, try pressing the TV/VCR button on the Remote Control.
- If you connect both VHF and UHF lead-in cables, use an optional U/V mixer. See page 6.

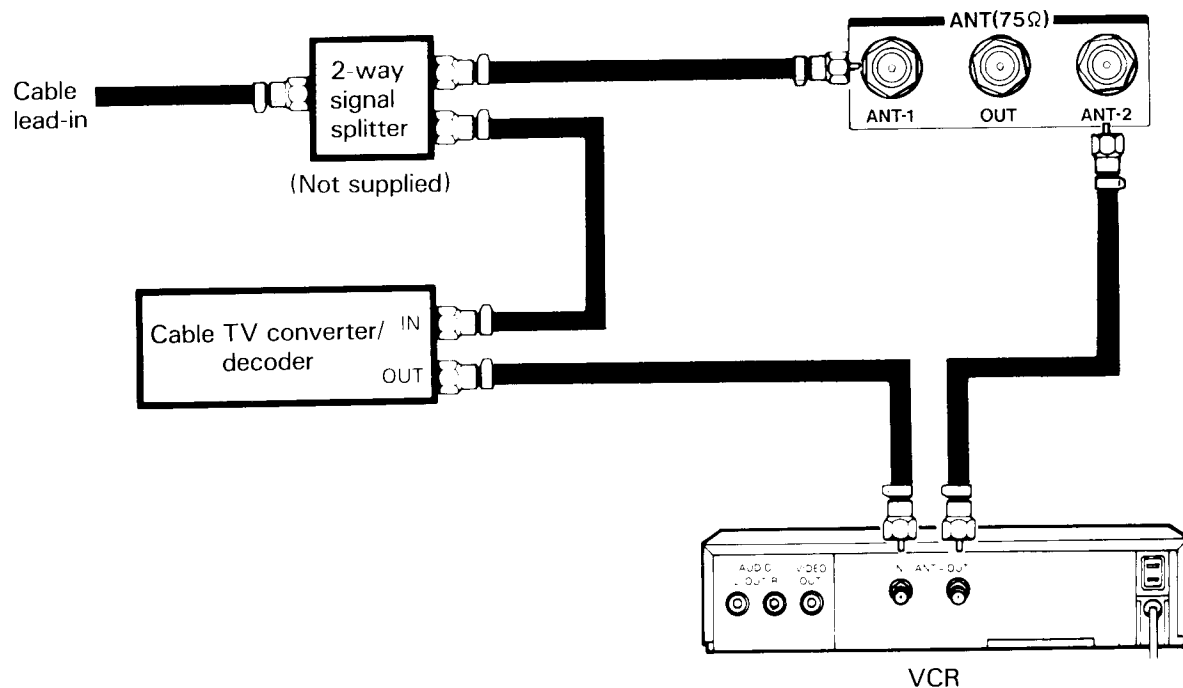
Using a 2-way signal splitter



This way you can view either TV programs or VCR tapes and not be concerned about the position of the VCR's TV/VCR switch.

Note: When connected either way, the VIDEO/AUDIO connections from the VCR to the TV are required for (stereo) playback from VCR's. See page 42 for connection details.

Cable with a converter/decoder box (Scrambled channels)



The unscrambled channels will come thru the ANT-1 terminal whenever the ANT 1/2 button or the ANT/VIDEO button is in "ANT 1" mode.

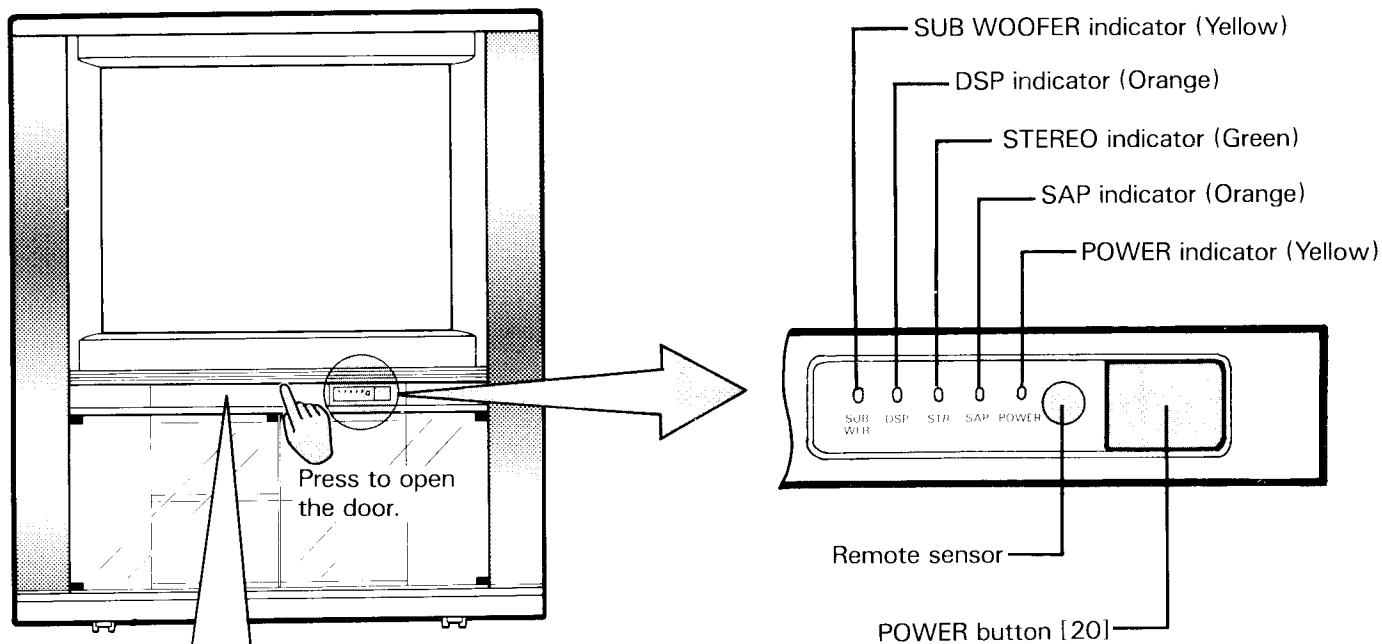
The scrambled channels from the decoder box will come thru the VCR and the ANT-2 terminal whenever the ANT 1/2 button or the ANT/VIDEO button is in "ANT 2" mode. Place your TV and VCR on channel 3 or 4 to match your converter's output channel. See page 23.

Note: When connected this way, the VIDEO/AUDIO connections from the VCR to the TV are required for stereo playback from stereo VCR's. See page 42 for connection details.

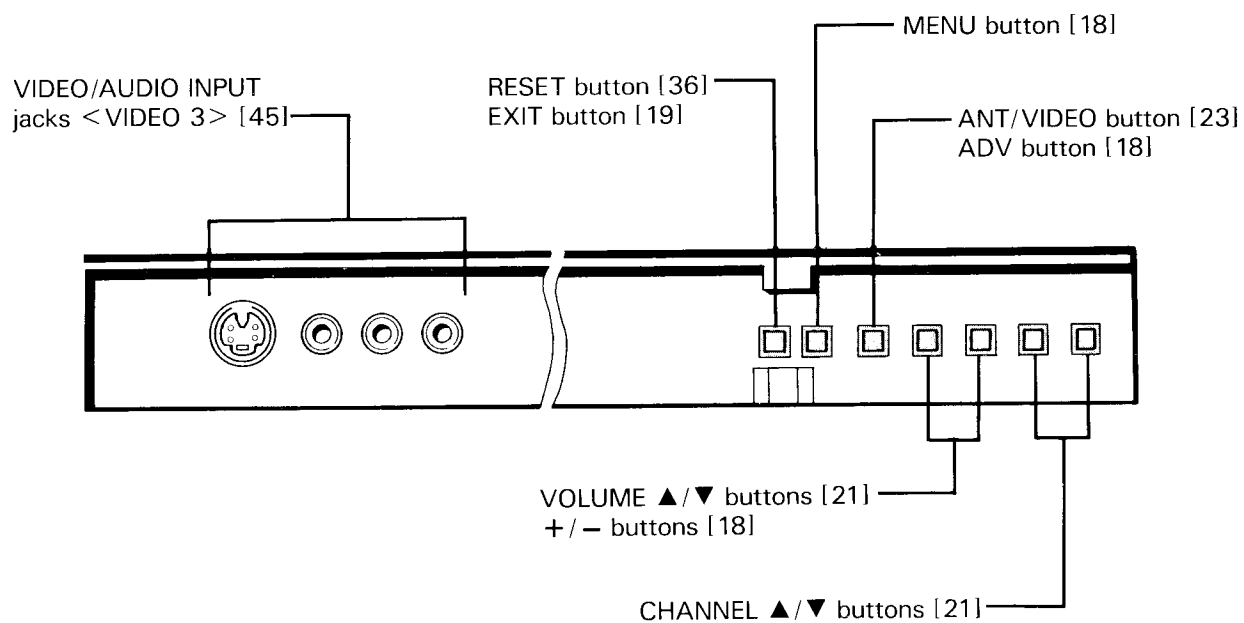
LOCATION OF CONTROLS (TV Set)

For the use of each control, see the pages in brackets.

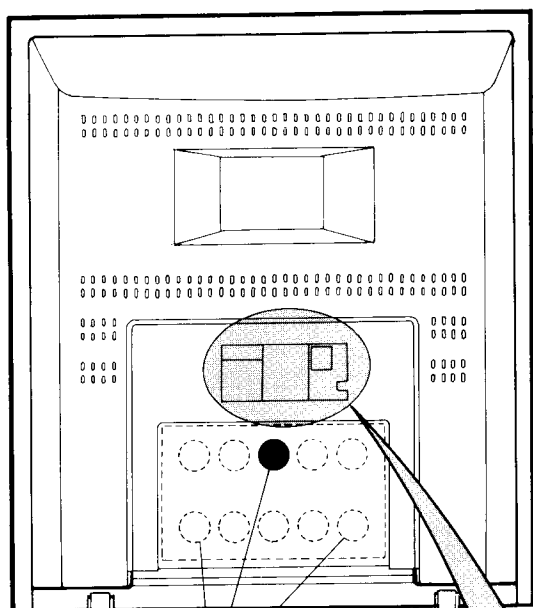
FRONT VIEW



BEHIND THE DOOR

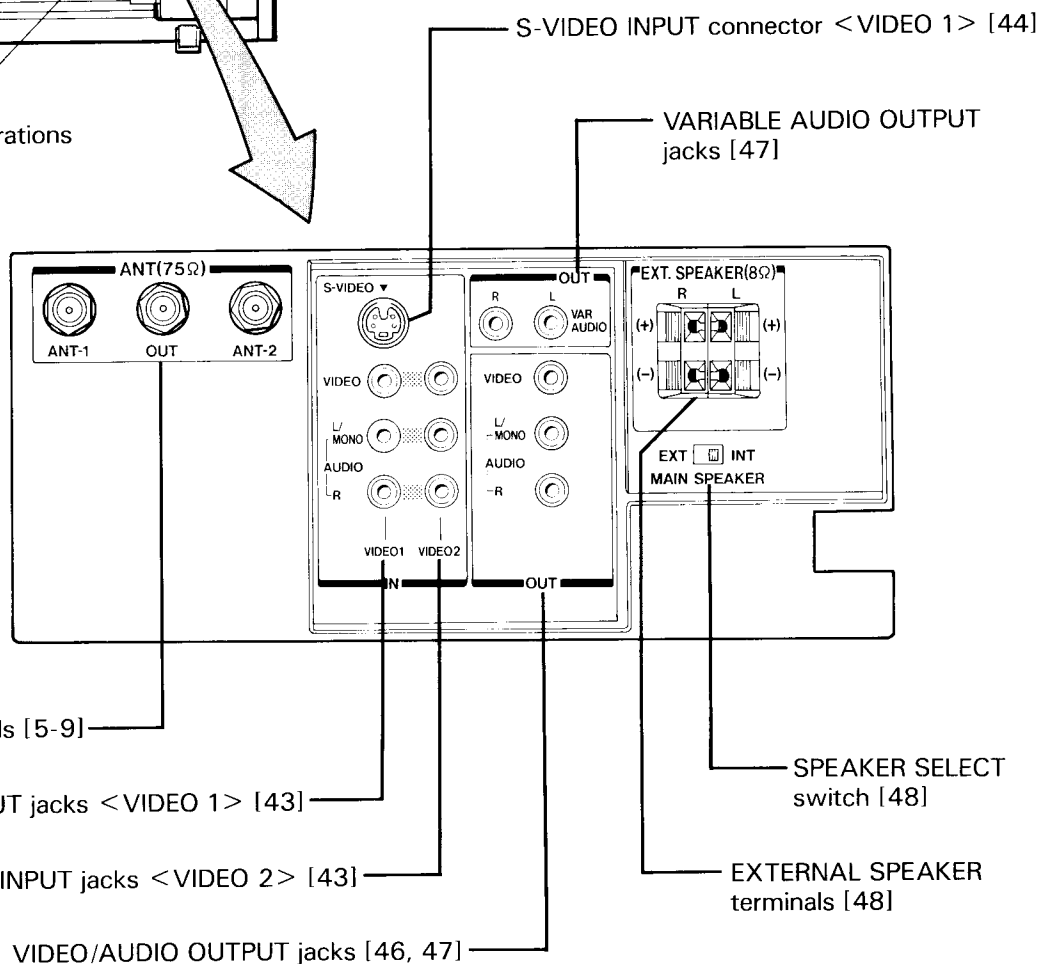


REAR VIEW



Hole and perforations
See Note.

Note: This hole and other perforations are for drawing out the video/audio cables, antenna cables and power cords from the installed equipments. If necessary, you can easy open desired perforations with a knife.

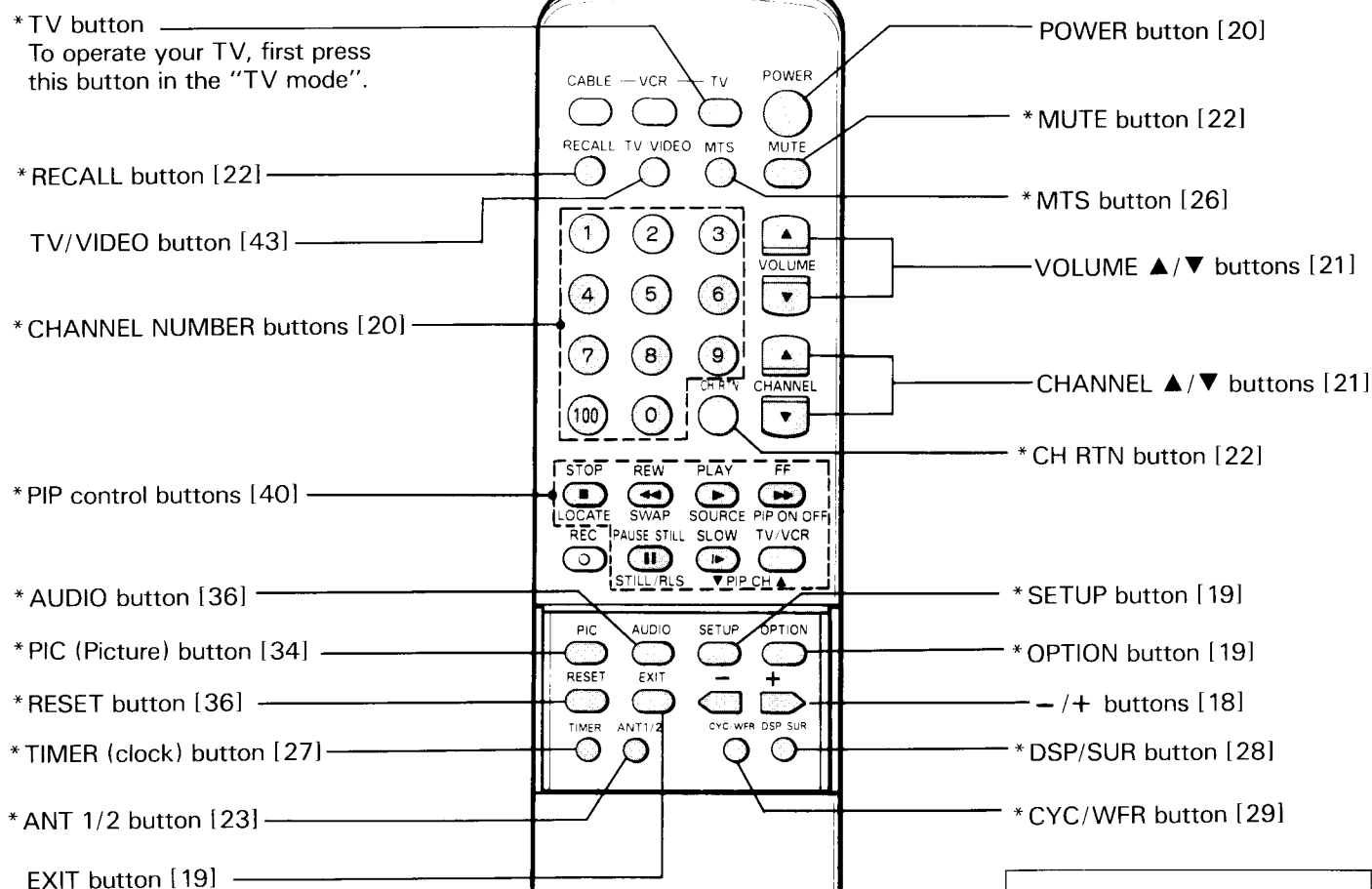


LOCATION OF CONTROLS (Remote Control)

Only the buttons that are used to operate the TV set are described here. The rest of the functions are used to operate VCR's (page 14), and Cable TV Converter's (page 15).

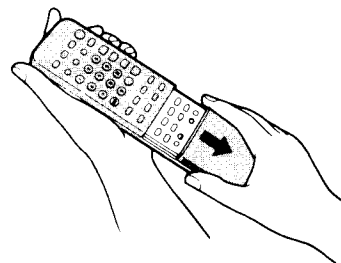
For details on the use of each control, refer to the pages in brackets.

Aim at the remote sensor on the TV set



* These functions do not have duplicate locations on the TV set. They can be controlled only by the Remote Control.

To use the buttons inside the cover, slide down the cover.



USING THE REMOTE CONTROL

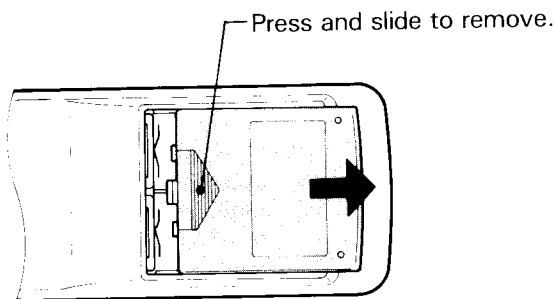
INTRODUCTIONS

This Remote Control allows you to operate your TV set and most models of remote-controlled VCR's and Cable TV Converters even if they are different brands. However, this Remote Control must be programmed to control other brands of VCR's and/or Converters. If you will be using your TV set with a TOSHIBA VCR, it has already been programmed for you.

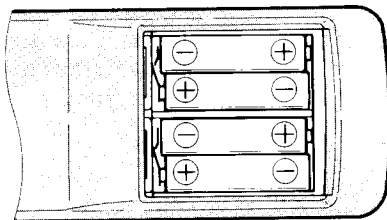
- Before attempting to operate your Remote Control, install the batteries according to the section "INSTALLING AND REPLACING BATTERIES" shown below.
- For more detailed instructions, see the section "PROGRAMMING THE REMOTE CONTROL" on page 16.

INSTALLING AND REPLACING BATTERIES

1. Place the Remote Control with the face down. Push down on the ridged area of the battery cover and slide it off.



2. Place the four "AAA" size batteries, matching the + and - signs on each battery to the + and - signs of the battery compartment.



3. Replace the battery cover until the lock snaps.

Note:

- After installing new batteries, the Remote Control will set itself to codes for TOSHIBA's TV and VCR. If you are using the Remote Control to operate equipment that uses different codes, it will have to be reprogrammed for those codes.
- This Remote Control may have functions not available on the original remote control. These functions may or may not operate your VCR or Cable TV Converter. Refer to the owner's manuals supplied with the equipments to see which functions are available.
- The remote control supplied with your VCR or Cable TV Converter may have keys not duplicated on this Remote Control. If these functions are desired, the original remote will have to be used.

TIPS FOR BEST OPERATION

- For optimum performance, aim the Remote Control directly at the equipment it is being used to operate and be sure there is no obstruction between the Remote Control and the equipment.
- If your Remote Control does not always adjust the set as you wish, you probably need to replace the batteries. See the directions at the left.
- Remove dead batteries immediately to prevent battery acid from leaking into the battery holding area.
- If you do not intend to use the Remote Control for a long period, remove the batteries.

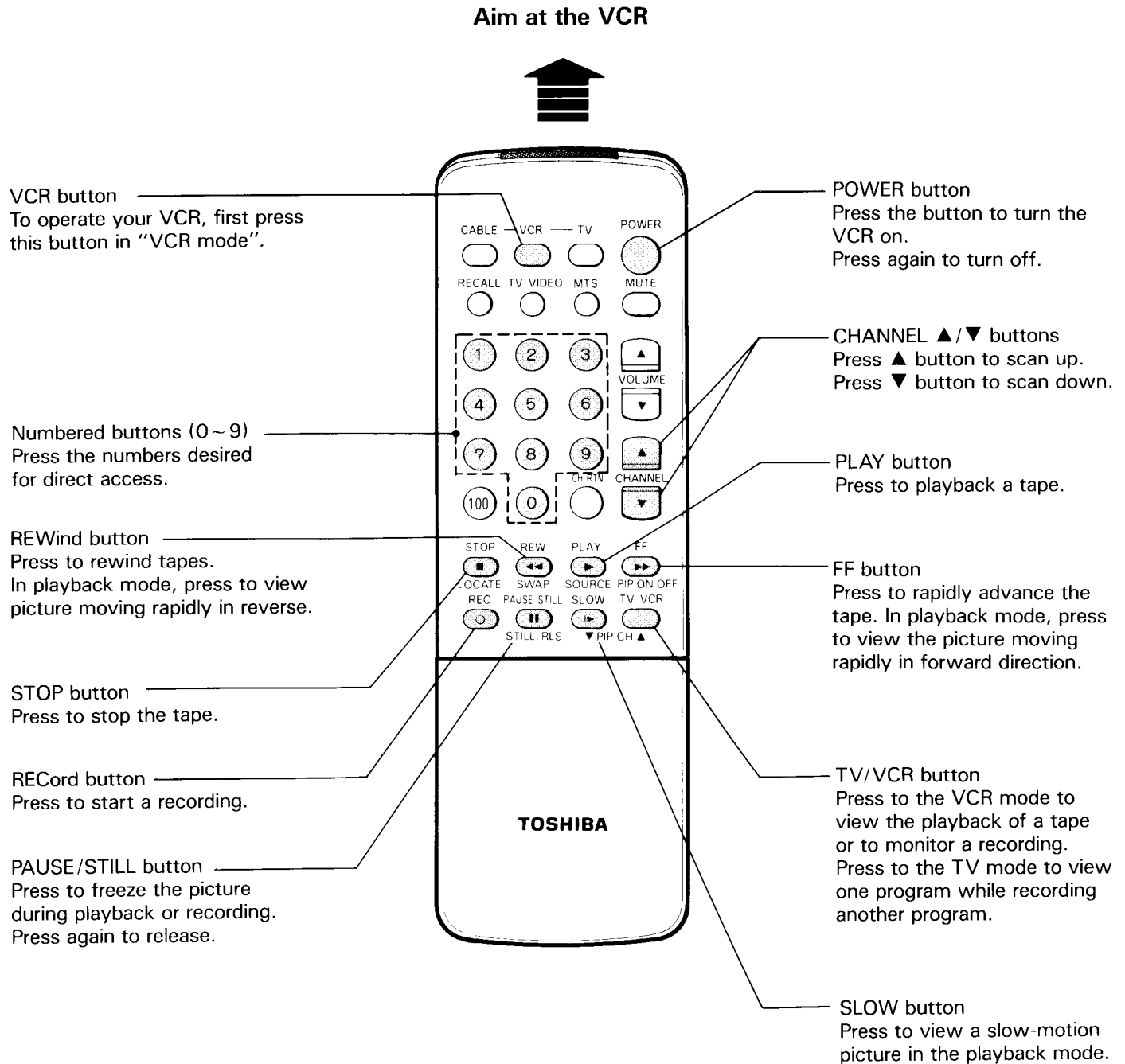
CAUTION:

- Do not throw your batteries into a fire. Dispose of your batteries in a designated disposal area.
- Do not combine used old batteries with new ones.
- Do not mix battery types.

USING THE REMOTE CONTROL (Continued)

USING THE REMOTE WITH VCR

- To control a TOSHIBA VCR, first press the VCR button to put the Remote in the "VCR mode". The buttons shown below will then control the VCR.
- If you have another brand of VCR, you can probably program your Remote to control it. Details are on page 16.

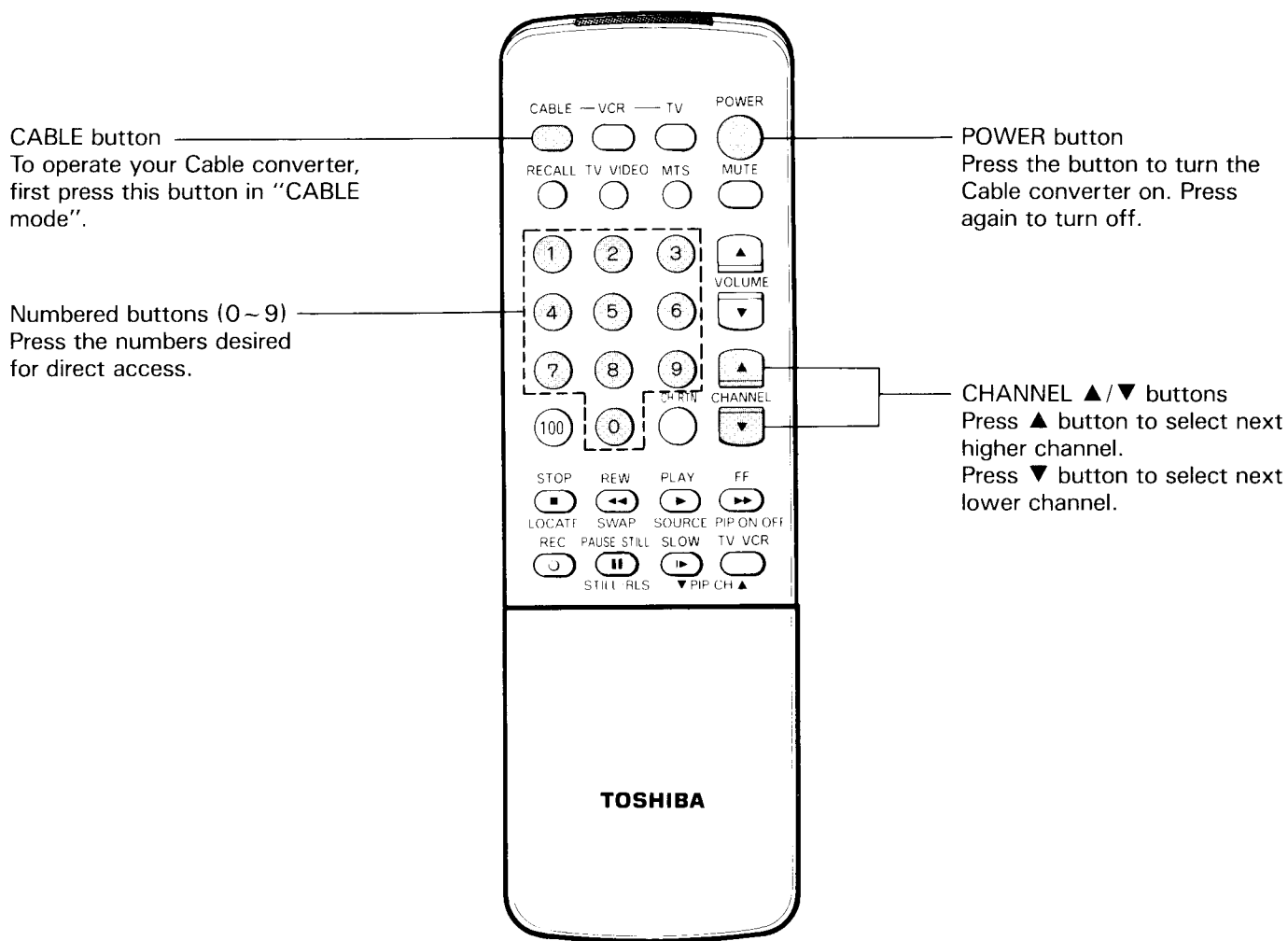


Note: The VOLUME ▲/▼ and MUTE buttons always control the TV set regardless of the CABLE, VCR or TV button position. When using these buttons, aim the Remote Control at the TV set.

USING THE REMOTE WITH CABLE TV CONVERTER

- To control a Cable TV converter, first press the CABLE button to put the Remote in the "CABLE mode".
- This Remote Control is designed to control several brands of Cable TV converter. If this Remote does not control your converter, you can probably also program your Remote to control it. Details are on page 16.

Aim at the Cable TV Converter



Note: The VOLUME ▲/▼ and MUTE buttons always control the TV set regardless of the CABLE, VCR or TV button position. When using these buttons, aim the Remote Control at the TV set.

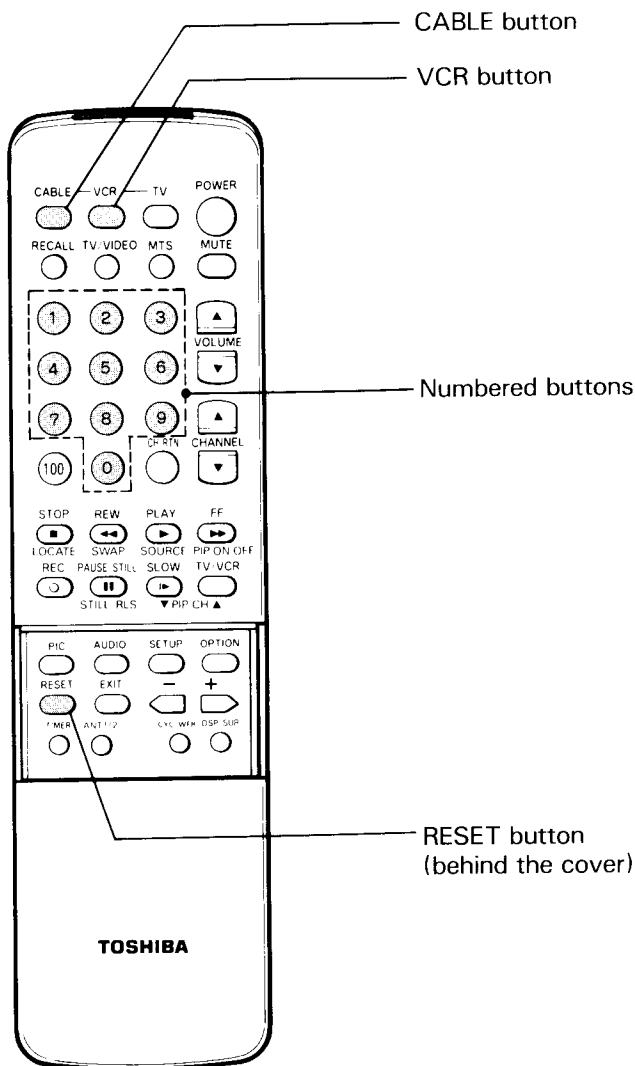
If your Cable TV converter has a volume control, adjust it for maximum volume level. Then adjust the volume using the VOLUME ▲/▼ buttons on this Remote.

USING THE REMOTE CONTROL (Continued)

PROGRAMMING THE REMOTE CONTROL

TO CONTROL OTHER BRANDS OF VCR'S AND CABLE TV CONVERTERS

Before using this Remote Control, it must be programmed to recognize the brands of the VCR and Cable TV Converter box it will be used to operate. If you are using a TOSHIBA **VHS** VCR, it has already been programmed for you. Otherwise, follow the steps below.



For future reference, write the code you used.

VCR CODE: _____

CABLE CODE: _____

TO CONTROL YOUR VCR

- 1 Refer to the "VCR CODE TABLE" on the next page to find the code number that corresponds to the brand name of your VCR. Keep this number in mind. If more than one number is listed, you may need to try each one separately until you find the one that works.
- 2 Press the VCR button.
- 3 Press the RESET button.
- 4 Press two number buttons (within three seconds of pressing the RESET button) to enter the code number for your brand of VCR.
- 5 Point the Remote at the VCR and press the POWER button to test the code number.
 - If the right number was entered, the VCR should turn on.
 - If the VCR does not react to the remote, repeat steps 1 thru 5 with another code number.

TO CONTROL YOUR CABLE TV CONVERTER

- 1 Refer to the "CABLE TV CONVERTER CODE TABLE" on the next page to find the code number that corresponds to the brand name of your converter.
- 2 Press the CABLE button.
- 3 Press the RESET button.
- 4 Press two number buttons (within three seconds of pressing the RESET button) to enter the code number for your brand of converter.
- 5 Point the Remote at the converter and press the POWER button to test the code number. If the converter does not react to the Remote repeat steps 1 thru 5 with another code number.

Note: You may have to reprogram the Remote Control if you change its batteries.

VCR CODE TABLE

BRAND NAME	CODE NUMBER	BRAND NAME	CODE NUMBER
AIWA	15	NEC	02, 14, 16, 30
AKAI	03, 22, 23	PANASONIC	08
AUDIO DYNAMICS	14, 16	PENTAX	05
BROCKSONIC	10	PHILCO	08, 29
CANON	08	PHILIPS	08, 29
CAPEHART	01	PIONEER	05
CITIZEN	09	QUASAR	08
CRAIG	12	RCA	00, 05, 07, 28, 35, 37
CURTIS MATHES	00, 08, 15	REALISTIC	02, 06, 08, 12, 15
DBX	14, 16	SAMSUNG	07, 32
EMERSON	10, 20, 34	SANYO	02, 12
FISHER	12, 18, 19	SCOTT	04, 13
FUNAI	15	SEARS	02, 05, 18, 19
GE	00, 07, 08, 32	SHARP	06, 24
GOLDSTAR	09	SHINTOM	31
HITACHI	05, 35, 36	SONY	17, 26, 38
INSTANT REPLAY	08	SYLVANIA	08, 15, 29
JC PENNEY	02, 05, 08, 14, 16, 30	SYMPHONIC	15
JVC	02, 14, 16, 30	TASHIKO	09
KENWOOD	02, 14, 16, 30	TATUNG	30
MAGNAVOX	08, 29	TEAC	15, 30
MARANTZ	02, 14, 16, 29, 30	TECHNICS	08
MARTA	09	TEKNIKA	21
MEMOREX	08, 12	TOSHIBA	13
MGA	04, 27	VECTOR RESEARCH	14, 16
MINOLTA	05	VIDEO CONCEPTS	14, 16
MITSUBISHI	04, 27	WARDS	06, 25
MONTGOMERY WARD	06	YAMAHA	02, 14, 16, 30
MULTITECH	07, 15, 32	ZENITH	11, 17

CABLE TV CONVERTER CODE TABLE

BRAND NAME	CODE NUMBER	BRAND NAME	CODE NUMBER
ANVISION	07, 08	PHILIPS	07, 08, 19, 26, 28, 29
CABLESTAR	07, 08		32, 33, 40, 41
EAGLE	08	PIONEER	18, 20
EASTERN INT	02	RANDTEK	07, 08
GENERAL INSTRUMENT	04, 05, 15, 23, 24, 25	RCA	27
	30, 36	REGENCY	02
HAMLIN	12, 13, 34	SCIENTIFIC ATLANTA	03, 22
JERROLD	04, 05, 15, 23, 24, 25	SYLVANIA	11
	30, 36	TEKNIKA	06
MACOM	37, 43	TEXSCAN	10, 11
MAGNAVOX	07, 08, 19, 26, 28, 29	TOCOM	17, 21
	32, 33, 40, 41	UNIKA	31
NSC	09	VIEWSTAR	07, 08, 28, 32, 41
OAK	01, 16, 38	ZENITH	14, 42

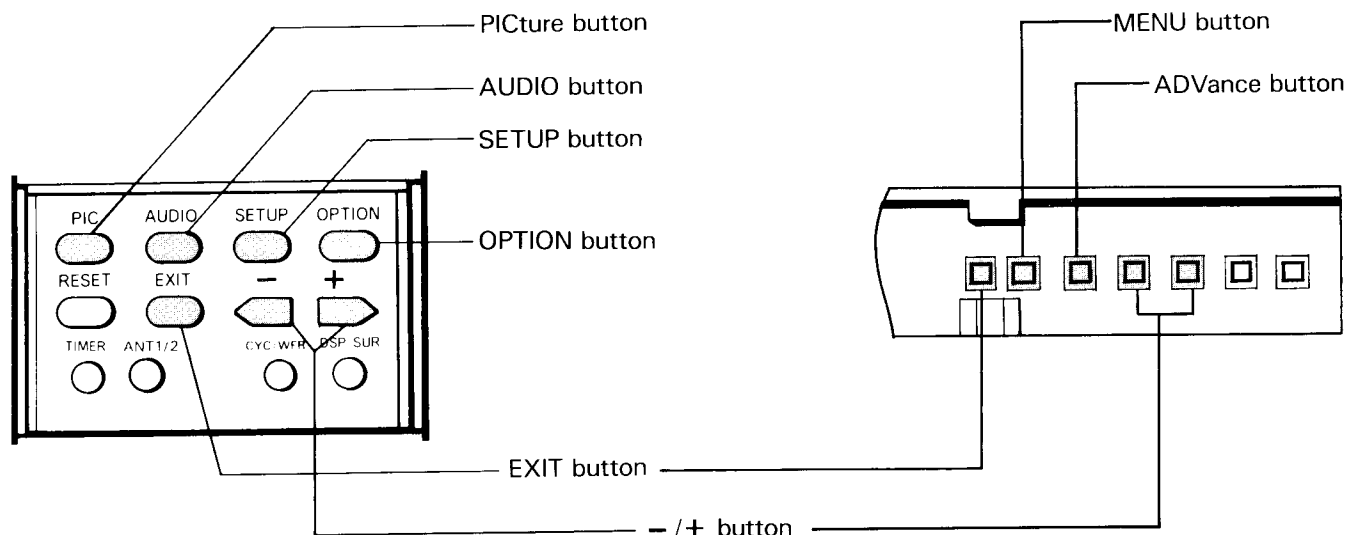
PREPARATION

Programming the Remote Control

MENU FUNCTION (General Instructions)

We suggest you familiarize yourself with this procedure before using the Menu function.

To adjust any TV feature, the use of the Menu function is required. The adjustments that can be made to the TV appear on the screen.

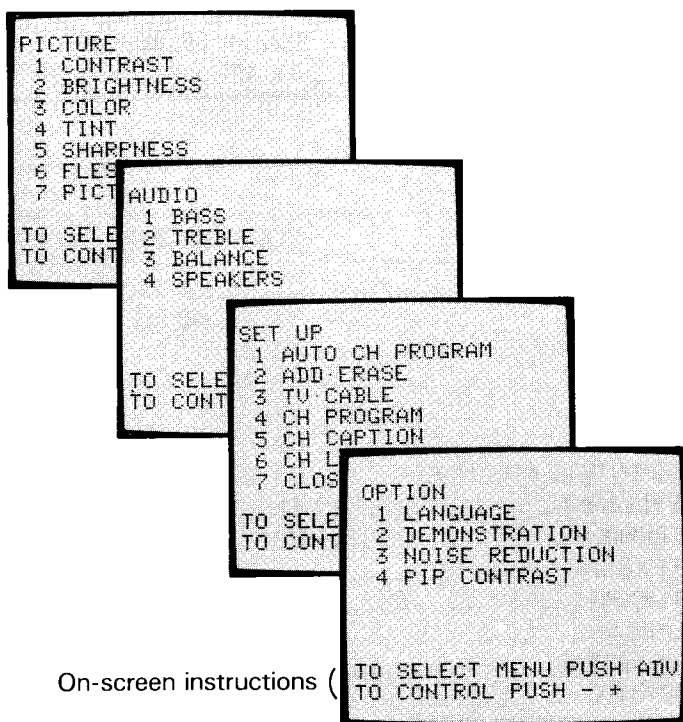


MENU BUTTON (on TV)

Each time you press the button, the PICTURE, AUDIO, SET UP or OPTION menu on-screen display is selected in order, then press the ADV button.

ADV BUTTON (on TV)

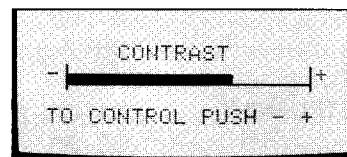
Use this button after you have pressed the MENU button to select the function you want to adjust. Each time you press the button, the function to be adjusted will be selected in numerical order. The selected function will be displayed in magenta.



- /+ BUTTONS (on TV and on Remote)

Use these buttons after you have pressed the ADV button or any of the four menu buttons (PICTURE, AUDIO, SETUP or OPTION).

<Example: CONTRAST adjustment mode display>



Decrease ← → Increase

Pressing the + button increases the picture contrast. Pressing the - button decreases the picture contrast.

PICTURE BUTTON (on Remote)

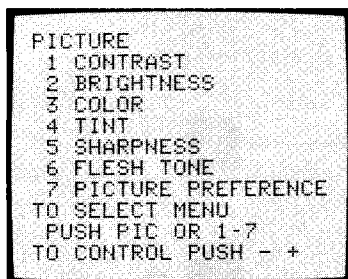
Press the button repeatedly until the PICTURE menu function you want to adjust is selected.

The numbered buttons (1–7) can also be used to directly select the function.

The selected function will be displayed in cyan.

Then press the – or + button to adjust the setting.

Details for each function begin on page 34.

**SETUP BUTTON (on Remote)**

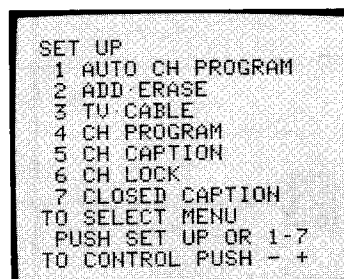
Press the button repeatedly until the SET UP menu function you want to adjust is selected.

The numbered buttons (1–7) can also be used to directly select the function.

The selected function will be displayed in cyan.

Then press the – or + button to adjust the setting.

Details for each function begin on page 24.

**AUDIO BUTTON (on Remote)**

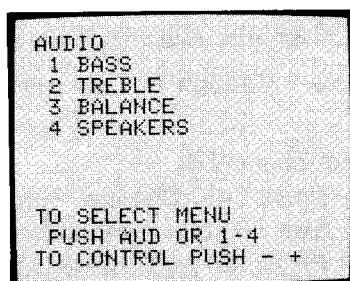
Press the button repeatedly until the AUDIO menu function you want to adjust is selected.

The numbered buttons (1–4) can also be used to directly select the function.

The selected function will be displayed in cyan.

Then press the – or + button to adjust the setting.

Details for each function begin on page 36.

**OPTION BUTTON (on Remote)**

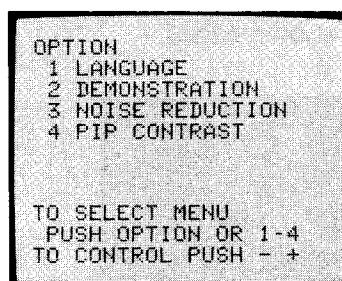
Press the button repeatedly until the OPTION menu function you want to adjust is selected.

The numbered buttons (1–4) can also be used to directly select the function.

The selected function will be displayed in cyan.

Then press the – or + button to adjust the setting.

Details for each function begin on page 37.

**EXIT BUTTON (on TV and on Remote)**

The above four menu displays will automatically disappear from the screen if no control has been operated for about 15 seconds, and all other menu displays also disappear after about 6 seconds.

If you want to clear the screen of all on-screen displays instantly, press this button.

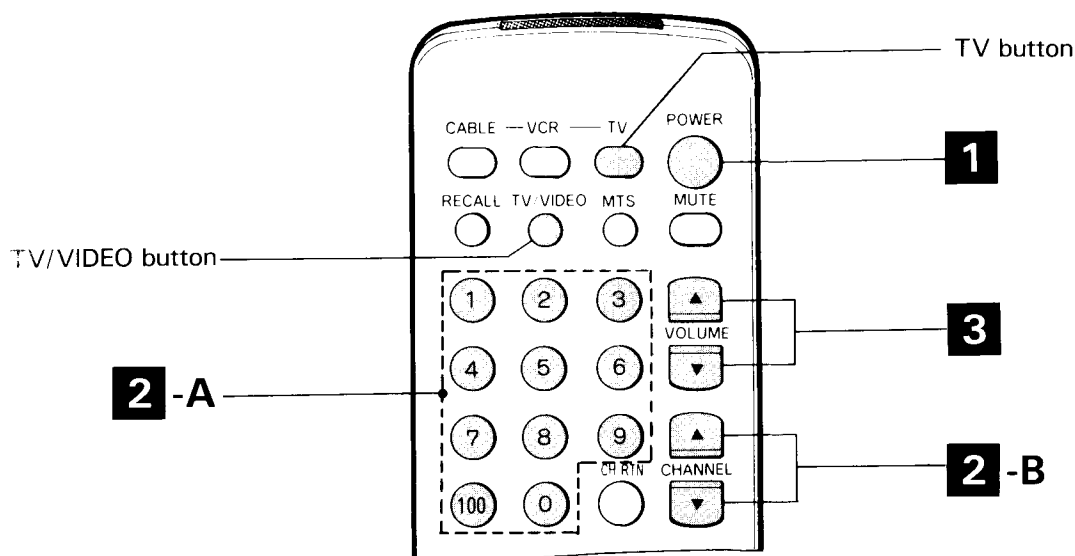
Notes:

- The ADV button on the TV set functions as the TV/VIDEO button when no menu display is on the screen.
- The –/+ buttons on the TV set function as the VOLUME ▲/▼ buttons when no menu display is on the screen.
- The EXIT button on the TV set functions as the RESET when there is no on-screen display.
- The on-screen instructions will appear under each menu display for easy step-by-step procedure.
- In the following text, the instructions for each menu function are principally mentioned in the procedure using the Remote control. The instructions of the corresponding buttons (such as MENU button, ADV button) on the TV set are indicated by the illustrations each time.

WATCHING TV PROGRAMS

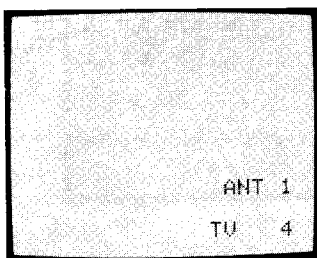
Generally, the Remote Control is all that is required to operate the TV set.

- First press the TV button on the Remote Control.



1 TO TURN THE TV SET ON

Press the POWER button to turn the TV set on. The POWER indicator (Yellow) will light up and the picture will appear in a few seconds. The channel number and input source will be displayed at the right bottom corner on the screen for a few seconds as shown below.



To turn the TV set off, press the button again.

Note: The TV/VIDEO button or the ANT/VIDEO button is used to see the signals coming from other devices like VCR's or Video Disc Players connected to this TV. Details are on page 43.

2 TO SELECT CHANNELS

Make sure the ANT 1/2 button (page 23) is properly set. Then select channels you want using the CHANNEL NUMBER buttons or the CHANNEL ▲/▼ buttons.

A. USING THE CHANNEL NUMBER BUTTONS

- To select channels 1 through 9, two methods are available.

Example: To select channel 4.

One-digit entry — Press "4". Channel 4 will be selected within 2 seconds.

Two-digit entry — Press "0" and "4". Channel 4 will be selected immediately.

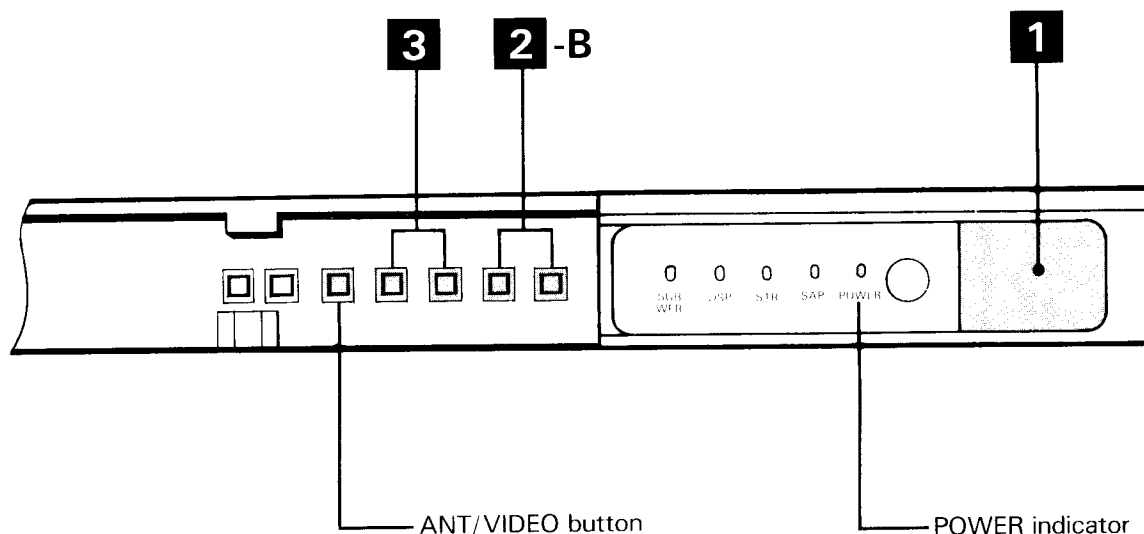
- To select channels 10 through 99, the two-digit entry must be used.

Example: To select channel 38.

Press "3" and "8", and channel 38 will be selected immediately.

- To select channels 100 through 125, the three-digit entry must be used.

Example: Press "100", "2" and "5" in sequence. Channel 125 will be selected.



B. USING THE CHANNEL ▲/▼ BUTTONS.

When you have completed channel programming according to the instructions, use the CHANNEL ▲/▼ buttons.

Follow the section "CHANNEL PROGRAMMING" on page 24.

Press and release the CHANNEL ▲ or ▼ button. The set will select the next memorized channel. It will not stop at unmemorized channels. Press the button again to select the next memorized channel.

<Example — TV mode>

▲ button — for higher numbered channels.

2 → 3 ----→ 68 → 69 → 2 ----→

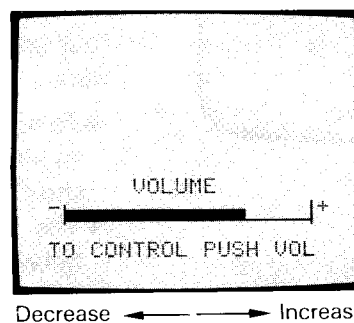
▼ button — for lower numbered channels.

69 → 68 ----→ 3 → 2 → 69 ----→

3 TO ADJUST VOLUME

To increase volume, press the VOLUME ▲ button. To decrease volume, press the VOLUME ▼ button. Press and hold either button until your desired volume level is obtained.

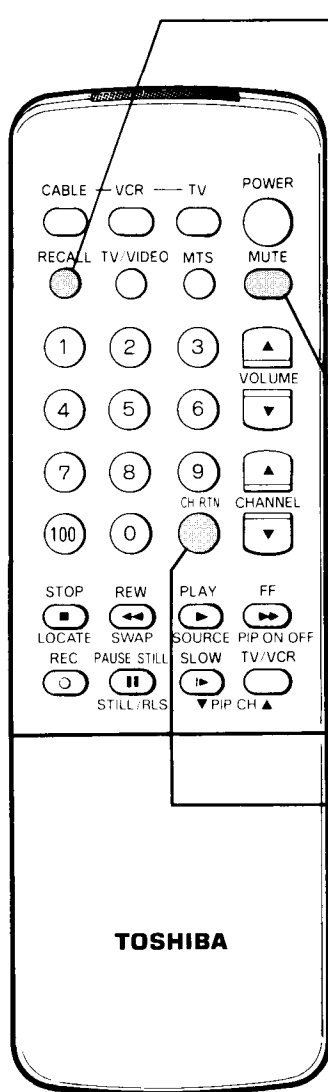
You can see what level by watching the magenta bar displayed on the screen as shown below.



Note: The VOLUME ▲/▼ buttons on the TV set function as the menu +/— buttons while any of the menu displays (PICTURE, AUDIO, SET UP or OPTION) are on the screen. See page 18.

CONVENIENT FUNCTIONS

Using the convenient functions with remote only.

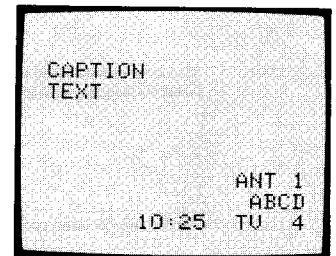


RECALL BUTTON

To call up the on-screen informations (channel number, time, input source, etc.) for a few seconds, press the RECALL button.

If the Caption and/or Text signals are transmitted, the words "CAPTION" and "TEXT" are displayed. See page 32 for details.

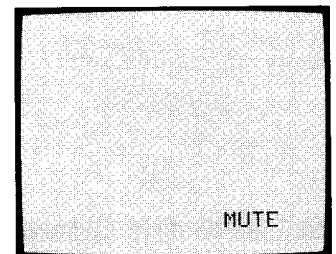
Note: To set the on-screen time display, follow the section "SETTING THE OFF-TIMER (SLEEP) AND THE CLOCK" on page 27.



MUTE BUTTON

To mute the sound immediately without affecting the picture, press the MUTE button. The word "MUTE" will be displayed on the screen as shown. This is useful during telephone calls or other interruptions.

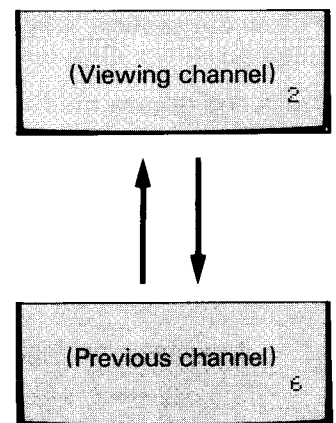
To restore the sound, press the button again.



CH RTN (Channel Return) BUTTON

To return to the last channel that was tuned previously, press the CH RTN button. This is useful should you want to view two channels. This allows you to view two programs without entering the actual channel number each time.

- To operate, select the first channel you want to view. Then select the other channel with the CHANNEL NUMBER buttons.
- The TV will now change back and forth between the two channels each time you press the CH RTN button.



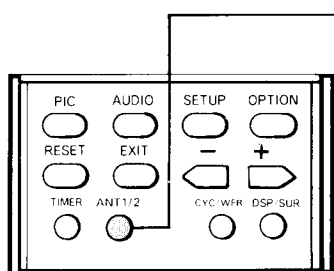
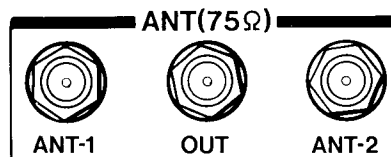
Notes:

- If a vacant channel is tuned or TV broadcast for a day is finished, the TV will automatically turn off after about 15 minutes. However, if the Off-timer is operating, it takes precedence. This **Auto-Power-Off** feature does not operate in the VIDEO mode.
- If the power is cut off while you are viewing the TV, and the power is resupplied, the TV is turned on automatically by the **Last Situation Memory** feature. If the power is going to be off for a long time and you might leave your home, remove the power plug from the wall outlet to prevent the TV from turning on in your absence.

CHANGING ANTENNA INPUT

Your TV has two separate antenna inputs (ANT-1 and ANT-2) that allow you to connect two different signal sources if desired.

You can switch back and forth between the two signal sources by pressing the ANT 1/2 button on the Remote Control or the ANT/VIDEO button on the TV set as shown below.



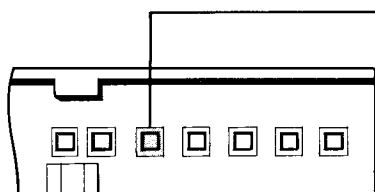
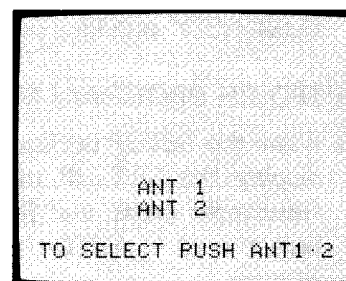
Behind the cover

ANT 1/2 BUTTON (on the Remote Control)

Each time you press the button, the ANT 1 mode and ANT 2 mode will alternate. The selected mode will be displayed in magenta to show which antenna source you are watching.

Select the mode that matches the antenna terminal you utilize.

Note: This button does not function in the VIDEO mode.



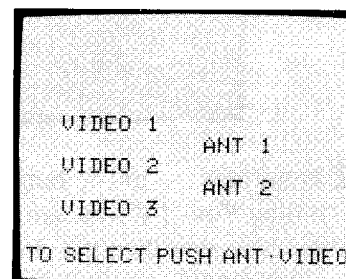
ANT/VIDEO BUTTON (on the TV set)

Each time you press the button, the ANT 1, VIDEO 1, VIDEO 2, VIDEO 3 or ANT 2 mode will be selected in order. The selected mode will be displayed in magenta to show which signal source you are watching.

Press the button until "ANT 1" or "ANT 2" is displayed in magenta to match the antenna terminal you utilize.

Notes:

- Details about using the VIDEO modes are on page 43.
- The TV/VIDEO button on the TV set functions as the ADV button while any of four menu displays (PICTURE, AUDIO, SET UP or OPTION) are on the screen. See page 18.



CHANNEL PROGRAMMING

This TV set can memorize channels you use and erase channels you do not use.

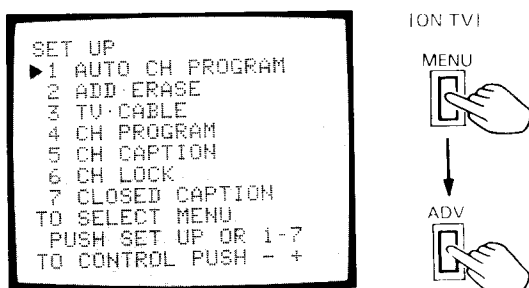
When the CHANNEL ▲ or ▼ button is pressed, the TV goes to the next memorized channel. Channel selection is easier and faster.

Proceed with the Channel Programming in the following order.

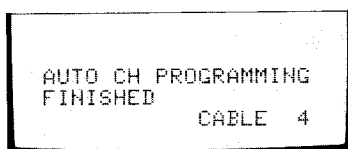
1. First follow the "AUTO CH PROGRAM FUNCTION" instructions. In many television viewing areas, programming available channels into memory is an easy one step procedure with this function.
2. If the AUTO function does not memorize any certain Cable channels, follow the instructions "CH PROGRAM FUNCTION". (You will probably not need to use this function.)
3. When it is decided that certain channels should be erased from the channel memory, the "ADD•ERASE FUNCTION" provides complete programming flexibility.

AUTO CH PROGRAM FUNCTION

- 1 Press the SETUP button on the Remote Control to display the SET UP menu on the screen, then repeatedly press the SETUP button or the "1" button until "1 AUTO CH PROGRAM" is displayed in cyan.



- 2 Press the – or + button to start autoprogramming. The TV will automatically check and determine whether the TV (antenna), CABLE STD, CABLE HRC, or CABLE IRC is being received. Then automatically cycle through all channels and place active channels into the channel memory.
- 3 When the following message appears on the screen, the autoprogramming is complete.

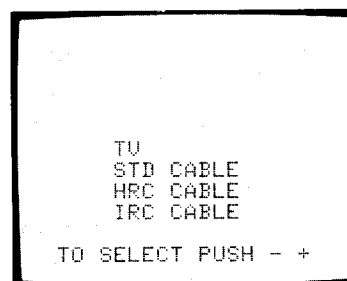


You can check to see which channels are in memory by pressing the CHANNEL ▲ or ▼ button.

CH PROGRAM FUNCTION

A. Changing TV Cable Function

- 1 Select the SET UP menu, then repeatedly press the SETUP button or the "3" button until "3 TV•CABLE" is displayed in cyan.
- 2 Press the – or + button.
Each time you press the button, the TV, STD CABLE, HRC CABLE or IRC CABLE mode will be selected in order.



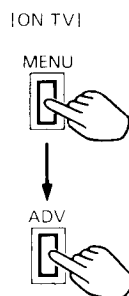
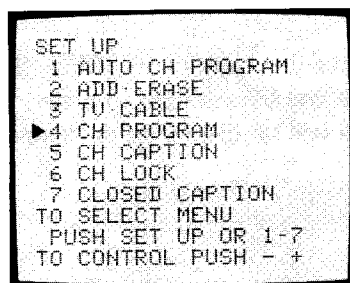
Press the button until the mode that corresponds to your TV signal system is displayed in magenta.

TV/CABLE MODE	SIGNAL SYSTEM	RECEIVING CHANNELS
TV	Off the air TV signals	VHF 2-13 UHF 14-69
STD	Standard Cable TV signals	1-125 (Number on this TV)
HRC	Harmonic Related Carrier Cable TV signals	
IRC	Incremental Related Carrier Cable TV signals	

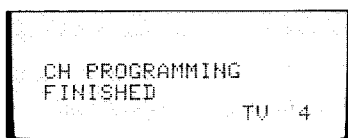
Your cable company can advise you as to which system they are using and the channel number system used in your area.

B. Programming Channels

- 1 Select the SET UP menu, then repeatedly press the SETUP button or the "4" button until "4 CH PROGRAM" is displayed in cyan.



- 2 Press the - or + button to start channel programming. The TV will automatically cycle through all the TV or CATV channels on the mode selected by the TV CABLE function and place active channels into the channel memory.
- 3 When the following message appears on the screen, the channel programming is complete.

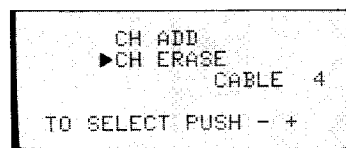


- 4 Press the CHANNEL ▲ or ▼ button to make sure the channel programming is made properly.

ADD ERASE FUNCTION

A. To Erase Channels You Do Not Use

- 1 Select the channel you want to erase by pressing the CHANNEL ▲ or ▼ button.
- 2 Select the SET UP menu, then repeatedly press the SETUP button or the "2" button until "2 ADD-ERASE" is displayed in cyan.
- 3 Press the - or + button until the words "CH ERASE" are displayed on the screen in magenta indicating that the channel has been erased from the memory.



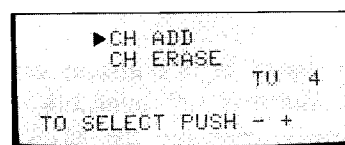
The CH ADD and CH ERASE mode alternate whenever the - or + button is pressed.

- 4 Repeat steps 1 through 3 for other channels.

B. To Add Channels

You may want to memorize again the channel which has been erased once.

- 1 Using the CHANNEL NUMBER buttons on the Remote Control, select the channel you want to memorize.
- 2 Select the SET UP menu, then repeatedly press the SETUP button or the "2" button until "2 ADD-ERASE" is displayed in cyan.
- 3 Press the - or + button until the words "CH ADD" are displayed on the screen in magenta indicating that the channel has been memorized.

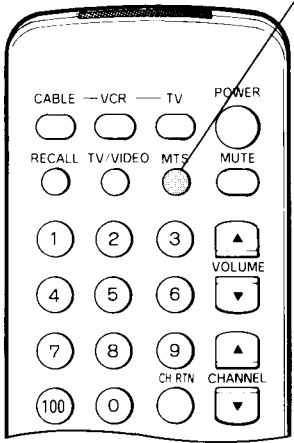


- 4 Repeat steps 1 through 3 for other channels.
- 5 Press the CHANNEL ▲ or ▼ button to make sure the channel programming is made as desired.

You have now completed the channel programming.

RECEIVING STEREO/SAP BROADCASTS

The Multi-channel TV Sound or MTS feature on this TV allows you to improve your TV viewing with high fidelity stereo sound. MTS also provides for an extra channel called Second Audio Program or SAP, used to transmit a second language for bilingual transmission or other sound.



MTS BUTTON

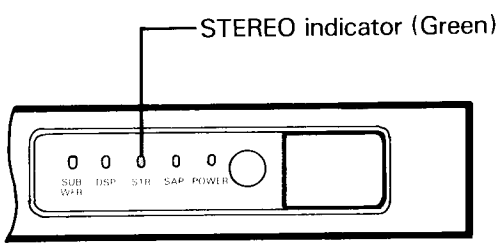
Each time you press the button, STEREO, SAP or MONAURAL mode will be selected in order. The selected mode will be displayed in magenta.

STEREO
SAP
MONAURAL
TO SELECT PUSH MTS

Select the appropriate mode according to various incoming broadcast signals.

LISTENING TO STEREO SOUND

If a channel is broadcasting in stereo, the STEREO indicator (green) will light up.



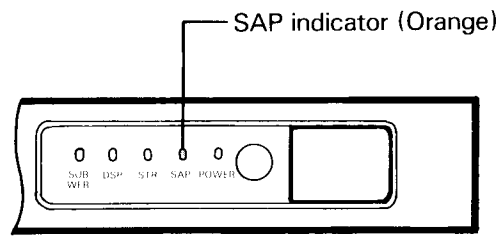
Press the MTS button until "STEREO" is displayed in magenta.

If a broadcasting signal is not strong enough and noise-free stereo sound is not available, select the MONAURAL mode by pressing the MTS button to receive monaural sound. The noise should stop.

Normally this function can be left in the STEREO mode. Your TV will then automatically reproduce either stereo or monaural sound, whichever is broadcast.

LISTENING TO SECOND LANGUAGE

If a channel is broadcasting "Second Audio Program", the SAP indicator (orange) will light up.

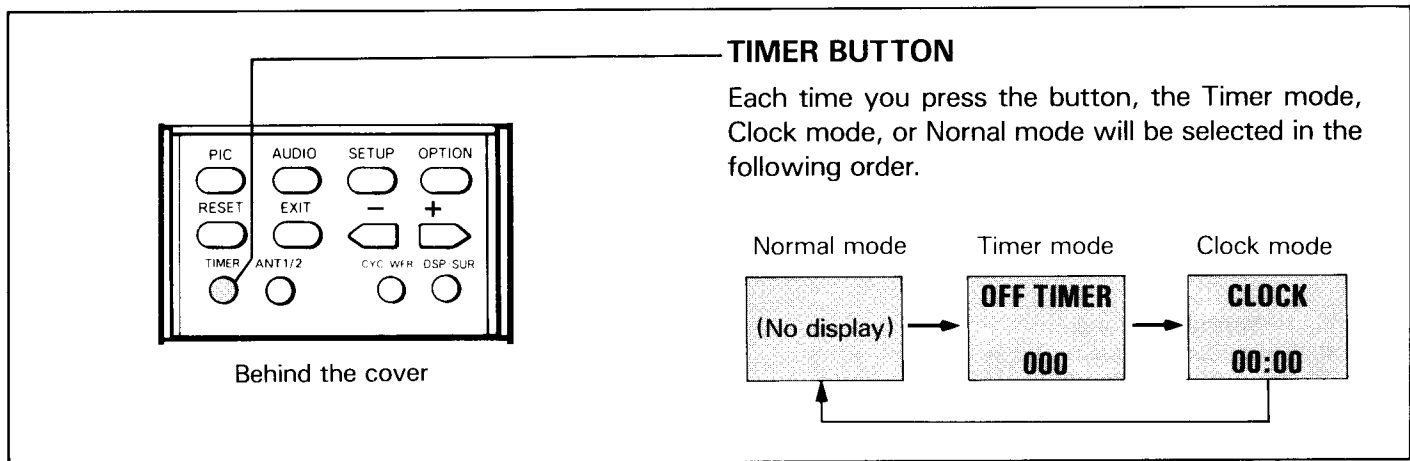


Select the SAP mode by pressing the MTS button. You will hear only the second language from the left and right speakers.

- Notes:**
- Please be sure you have selected the Stereo mode if broadcast is in stereo.
 - If the STEREO (or SAP) indicator does not light up in spite of a known MTS broadcast, select the Stereo or SAP mode by pressing the MTS button again.
 - The MTS button does not function in the VIDEO mode.

SETTING THE OFF-TIMER (SLEEP) AND THE CLOCK

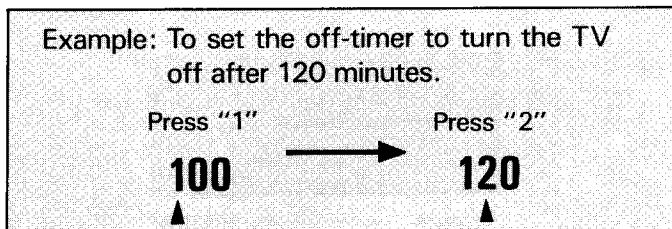
The off-timer and clock settings can be made only by the Remote Control.



TO SET THE OFF-TIMER

This feature allows you to set the TV to turn off automatically after a certain period of time (every 10 minutes, up to 180 minutes or 3 hours).

- 1 Press the **TIMER** button once to select the Timer mode.
- 2 Press two Number buttons in order to enter length of time you want the TV stay on. The blinking indicates that the TV is ready to accept the numbers.



- 3 Press the **TIMER** button once to start the timer. (The TV will begin to count down to zero.) The display color will change from magenta to cyan, and then the display will go off.

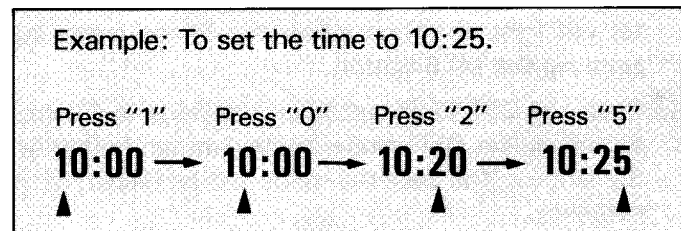
Setting completed.

Notes:

- If you press the **POWER** button while the timer is operating, the timer setting will be cancelled.
- If you want to know the time remaining, press the **TIMER** button once. Remaining time will be displayed on the screen. To erase the display, press the button twice to set to the Normal mode.

TO SET THE CLOCK

- 1 Press the **TIMER** button twice to select the Clock mode.
- 2 Press four Number buttons in order to enter correct time. The blinking indicates that the TV is ready to accept the numbers.



An invalid number can not be entered.

For example, 2 thru 9 for 1-digit hour and 6 thru 9 for 10-digit minutes can not be entered.

- 3 Press the **TIMER** button once to start the clock. The display color will change from magenta to cyan, and then the display will go off.

Setting completed.

The correct time will now appear on the screen whenever you press the **RECALL** button.

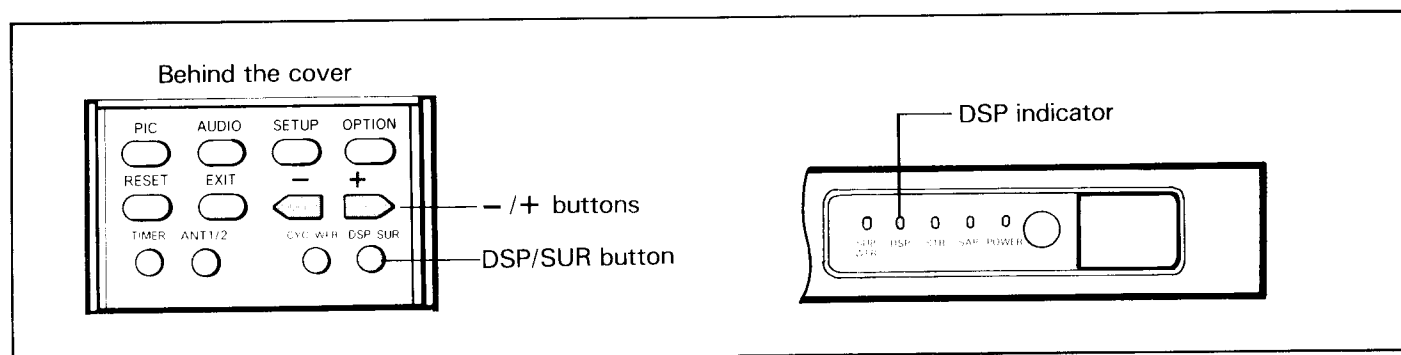
Notes:

- The clock operates on a 12 hour-cycle.
- If the power source of the TV set is interrupted such as unplugged AC cord or power failure, the time set is cancelled. (The time display will show "00:00".)

OPERATING DSP FUNCTION

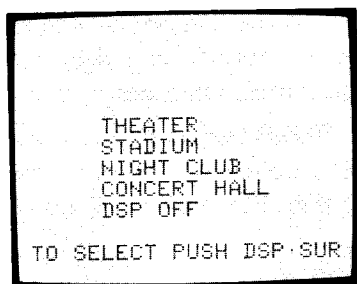
The DSP (Digital Sound Processor) function expands the listening field wider and deeper than you would believe possible from a TV's speakers. You can select the appropriate mode for the scene of TV program you are watching from among the four modes shown below. This function processes only TV broadcast (or Video reproduction) with stereo.

- THEATER mode — When receiving theater scene
- STADIUM mode — When receiving stadium (sporting events) scene
- NIGHT CLUB mode — When receiving night club scene
- CONCERT HALL mode — When receiving concert hall scene



SELECTING APPROPRIATE MODE

- 1 Make sure the channel you are watching is broadcasting in stereo. If in stereo, the STEREO indicator will light up. Then select the Stereo mode by pressing the MTS button.
- 2 Press the DSP/SUR button on the Remote Control to call up the DSP mode display shown below on the screen. The selected mode will be displayed in magenta.



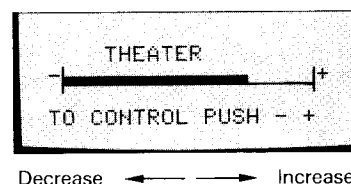
Press the button until the mode which corresponds to the scene of the TV program you are watching is displayed in magenta.
The DSP indicator will light up while the DSP function is being activated.

To deactivate the DSP function, select "DSP OFF".

ADJUSTING DSP LEVEL

- 1 Press the DSP/SUR button until the mode you want to adjust is displayed in magenta.
- 2 Press the – or + button to display the DSP adjustment mode as shown below.

<Example: THEATER adjustment mode display>



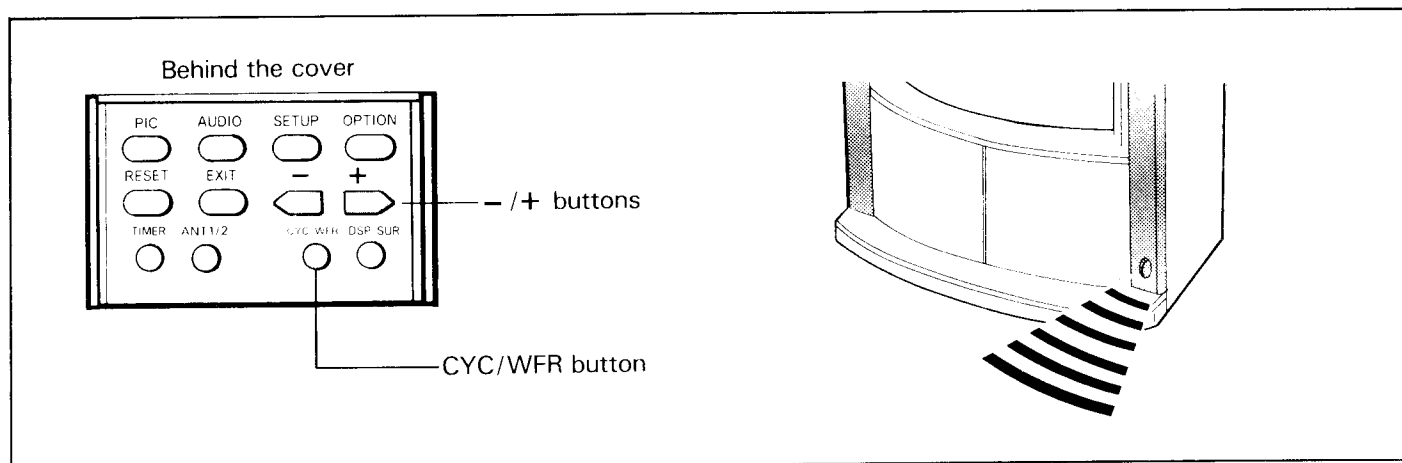
Press the + button to increase DSP level.
Press the – button to decrease DSP level.
You can see what level by watching the magenta bar displayed on the screen.
Press and hold either button until your desired DSP level is obtained.

Notes:

- If you receive the stereo signal from the VIDEO inputs, the STEREO indicator on the TV set does not light up. However, the DSP function can be operated.
- You may adjust the sub-woofer volume to enhance the DSP effect as you desire. See the next page.

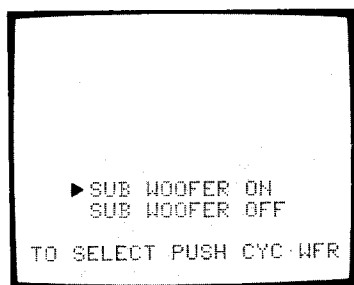
OPERATING SUB-WOOFER

The sub-woofer is a heavy bass reproduction system.



TO ACTIVATE THE SUB-WOOFER

- 1 Press the CYC/WFR button on the Remote Control once to call up the SUB WOOFER ON/OFF mode on-screen display shown below.



Each time you press the button, the ON mode and OFF mode will alternate.

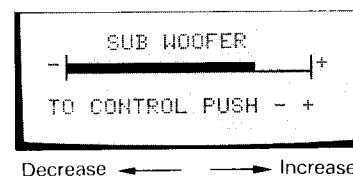
Press the button until "SUB WOOFER ON" is displayed in magenta.

The sub-woofer has now been activated.

To deactivate the sub-woofer, select "SUB WOOFER OFF".

TO ADJUST THE SUB-WOOFER VOLUME

- 1 Press the CYC/WFR button once to call up the SUB WOOFER ON/OFF mode on-screen display shown at the left.
- 2 Press the - or + button to call up the sub-woofer volume adjustment on-screen display as shown below.



- 3 Press the + button to increase the sub-woofer volume.
Press the - button to decrease the sub-woofer volume.
You can see what level by watching the magenta bar displayed on the screen.
Press and hold either button until your desired volume level is obtained.

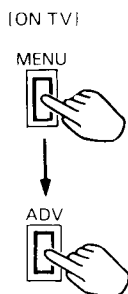
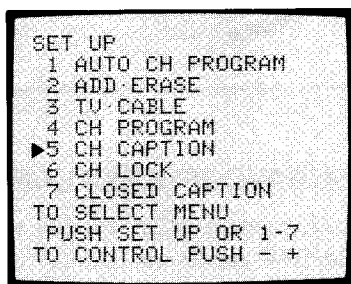
CAPTIONING CHANNELS

This feature allows you to enter a 4 letter call out of your choice that will appear over the channel number display. The caption can be anything you want (for example the station call letters).

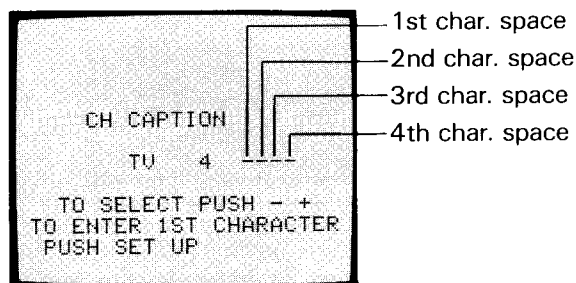
TO CAPTION CHANNELS

Example: To assign "ABCD" to channel 4.

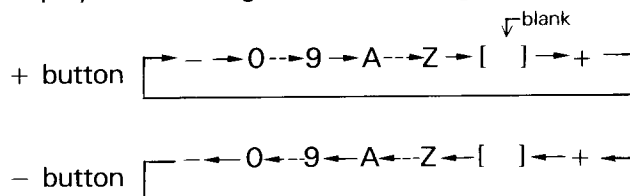
- 1 Select channel 4.
- 2 Press the SETUP button on the Remote Control to display the SET UP menu on the screen, then repeatedly press the SETUP button or the "5" button until "5 CH CAPTION" is displayed in cyan.



- 3 Press the - or + button to call up the caption setting mode display shown below on the screen.

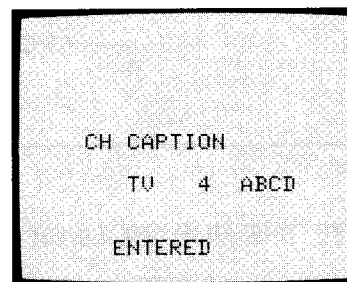


- 4 Press the - or + button to put a character "4" in the 1st character space. There are letters of alphabet, numbers and other graphic symbols available for captioning. Each time you press the button, the character to be displayed will change in the following order.

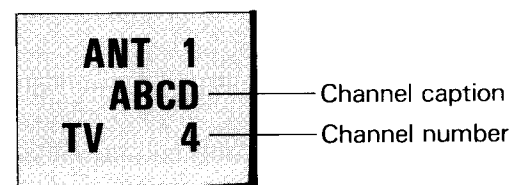


Press the button until the character you want appears on the screen.

- 5 Press the SETUP button once to enter the 1st character and to step to the next character space.
- 6 Repeat steps 4 and 5 to enter 2nd, 3rd and 4th characters "B", "C", "D". When the following on-screen message appears, the channel caption has been placed in the TV's memory.



- 7 Repeat steps 1 through 6 for other channels. You can caption up to 32 channels. Make sure the caption you have entered will be displayed when the TV is turned on, the channel is selected, or the RECALL button is pressed.



Captioning has now been completed.

TO CLEAR YOUR CAPTIONING

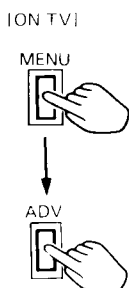
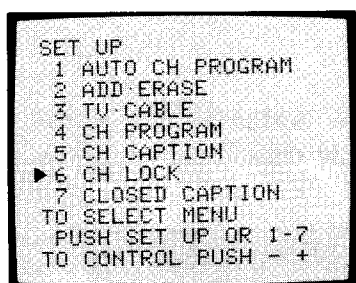
- 1 Select the channel which has the caption you wish to erase.
- 2 Call up the channel caption setting mode display following the steps 2 and 3 at the left column.
- 3 Enter "[blank]" or " - " in all character spaces.

LOCKING CHANNELS FOR PARENTAL CONTROL

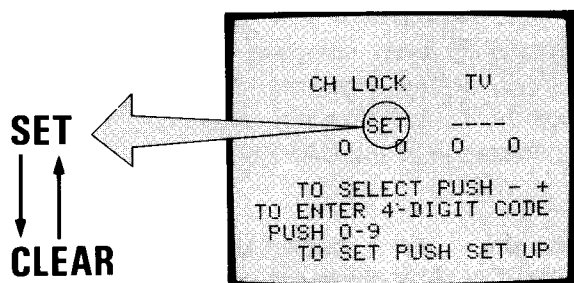
This feature allows you to program the TV so that any specific channel (for example a channel that you do not want your children to watch) cannot be viewed. You can lock out channels by entering your own 4-digit code and the TV will not be able to tune them for the next 24 hours unless you cancel parental control.

TO LOCK OUT CHANNELS

- 1 Select a channel you want to lock out.
- 2 Press the SETUP button on the Remote Control to display the SET UP menu on the screen, then repeatedly press the SETUP button or the "6" button until "6 CH LOCK" is displayed in cyan.



- 3 Press the - or + button to call up the channel lock adjustment mode on-screen display shown below. Each time you press the button, "SET" mode and "CLEAR" mode alternate. Select "SET" mode.



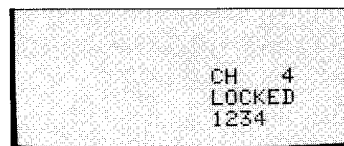
- 4 Enter 4-digit code by pressing the Numbered buttons (0 to 9) on the Remote Control. The numbers you enter will replace the dashes in the display. **Pick a number that is easy to remember.**

Example: To enter "1234".

Press "1" Press "2" Press "3" Press "4"

1--- → 12-- → 123- → 1234

- 5 Press the SETUP button to lock out the channel. The following display will appear on the screen for about 4 seconds.



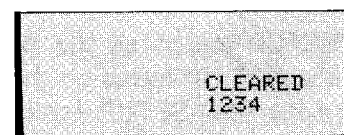
- 6 Repeat steps 1 through 5 for other channels. This TV set has 4 memory spaces for the TV mode and CABLE mode respectively.

Note: If a different code number is used whenever you lock out a channel, only the number used for the last channel will remain.

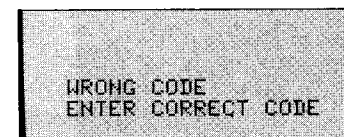
- 7 Select another channel, or turn off the TV set if desired.

TO RESTORE CHANNELS

- 1 Select "CLEAR" mode following the above steps 2 and 3.
- 2 Enter the 4-digit code used to lock out the channels by pressing the Numbered buttons.
- 3 Press the SETUP button. If you have entered the code used to lock out the channels, the following display appears.



If wrong code has been entered, the following message appears.



Try to enter the correct code again.

Note: If you want to know the channels you have locked out, call up the channel lock adjustment mode on-screen display using the SETUP button and - / + buttons.

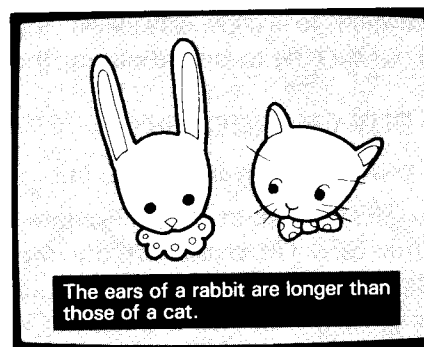
CLOSED CAPTION

CAPTION

Closed captions are the dialogue, narration, and/or sound effects of a TV program or home video printed on the screen, similar to subtitles.

Captions will appear at either the top or bottom of the screen during regular broadcasts as shown at the right.

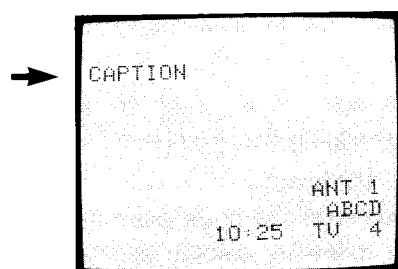
Captioning is especially helpful for the hearing impaired.



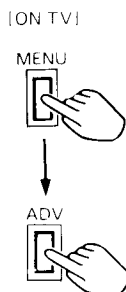
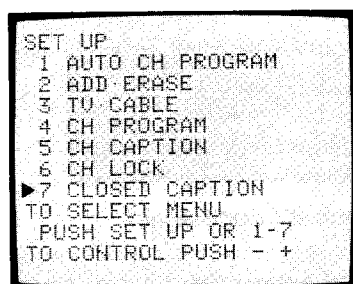
TO DISPLAY CAPTIONS

- 1 Check your local TV listings for the time and channel number of captioned programs. Programs captioned are usually notated by its service marks such as "CC".

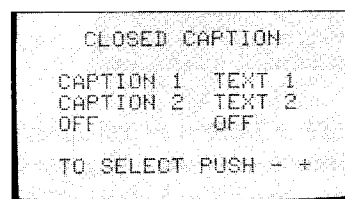
Otherwise, you can check if the TV program you are watching is being closed captioned by pressing the RECALL button on the Remote Control. If it is a closed-captioned program, the word "CAPTION" is displayed on the screen as shown.



- 2 Press the SETUP button on the Remote Control to display the SET UP menu on the screen, then repeatedly press the SETUP button or the "7" button until "7 CLOSED CAPTION" is displayed in cyan.



- 3 Press the - or + button to call up the closed caption select mode display shown below on the screen.



Usable items are displayed in yellow, otherwise in cyan. However, if you select the above menu immediately after selecting the closed-captioned channel, all the items may be displayed in cyan, since the TV will take a few seconds to determine the existence of the CAPTION signal.

- 4 Press the - or + button until "CAPTION 1" or "CAPTION 2" is displayed in magenta.

The CAPTION 2 mode may be for different languages.

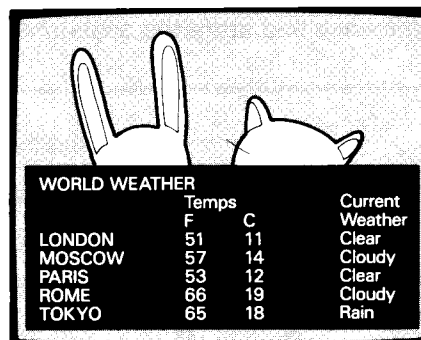
The TV displays captions automatically if the program you are watching has been captioned.

If you don't want the caption displayed, select "OFF".

Note: The VIDEO/AUDIO OUTPUT jacks on the TV set always output a closed-captioned signal. The closed-caption program can be recorded; but only played back on a TV set with a closed-caption decoder. However, the quality of the video tape which was dubbed may not be acceptable to decode the closed-captioned signal with this TV set.

TEXT

Text is information that is presented using the lower half of the TV screen (8 lines). It is not related to the program on the TV screen. For example, it could be a listing of the closed-captioned programs, news, weather information or stock market reports.

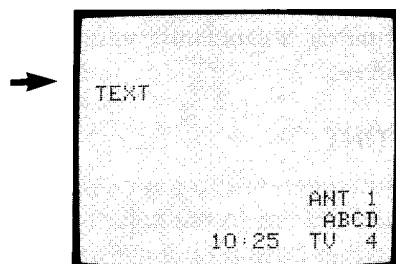


WORLD WEATHER			Current Weather
	Temps		
	F	C	
LONDON	51	11	Clear
MOSCOW	57	14	Cloudy
PARIS	53	12	Clear
ROME	66	19	Cloudy
TOKYO	65	18	Rain

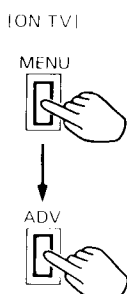
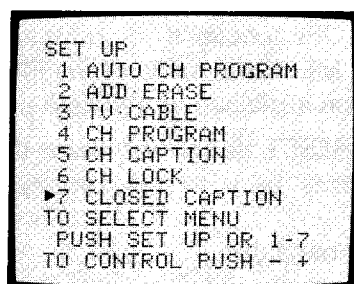
TO DISPLAY TEXT INFORMATION

- 1 Press the RECALL button on the Remote Control to check if the TV program you are watching includes TEXT information.

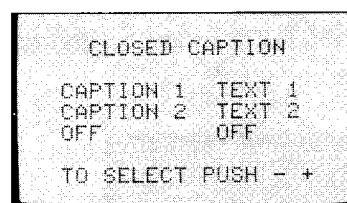
If the TEXT signal is being transmitted, the word "TEXT" is displayed on the screen as shown.



- 2 Press the SETUP button on the Remote Control to display the SET UP menu on the screen, then repeatedly press the SETUP button or the "7" button until "7 CLOSED CAPTION" is displayed in cyan.



- 3 Press the - or + button to call up the closed caption select mode display shown below on the screen.



Usable items are displayed in yellow, otherwise in cyan. However, if you select the above menu immediately after selecting the closed-captioned channel, all the items may be displayed in cyan, since the TV will take a few seconds to determine the existence of the TEXT signal.

- 4 Press the - or + button until "TEXT 1" or "TEXT 2" is displayed in magenta.

The TV displays TEXT information automatically if the program you are watching has text added.

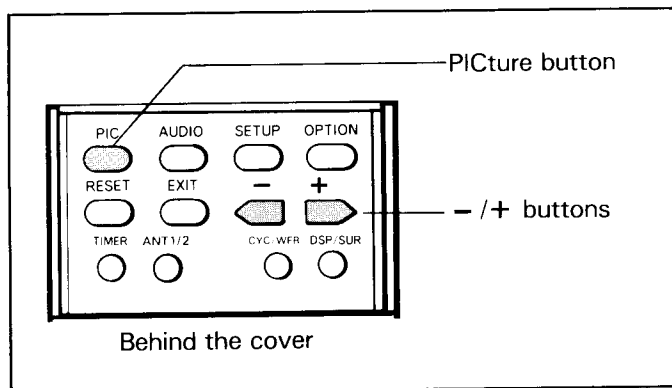
If you don't want to display the TEXT information, select "OFF".

Notes:

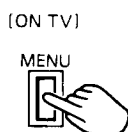
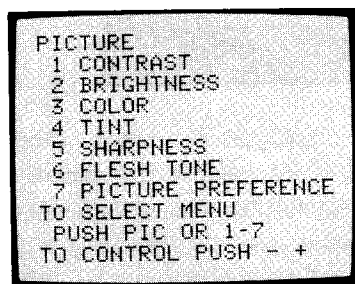
- The TEXT information can be recorded from the VIDEO/AUDIO OUTPUT jacks on the TV set; but only played back on a TV set with closed-caption decoder. However, the quality of the video tape which was dubbed may not be acceptable to decode the closed-captioned signal with this TV set.
- If you select a Caption format channel and the "TEXT" mode, the TEXT screen will always be displayed. However, if the TEXT character signal is not transmitted, the characters are not displayed.

ADJUSTING PICTURE FUNCTIONS

You can adjust the PICTURE functions (CONTRAST, BRIGHTNESS, COLOR, TINT and SHARPNESS) to suit your personal preference and store the adjustment levels in memory.

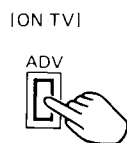
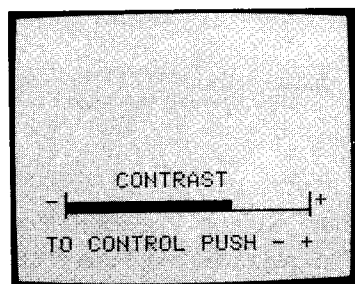


- 1 Press the PIC button on the Remote Control to display the PICTURE menu on the screen shown below.



- 2 Repeatedly press the PIC button or the Numbered button (1 to 7) to select a function, then press the - or + button to adjust it.

<Example: CONTRAST adjustment mode display>



If you continue to adjust any PICTURE functions, press the PIC button while the adjustment mode display remains on the screen. The next function will be selected. This is a quick step approach for total picture adjustment.

TO ADJUST CONTRAST

Press "+" to increase contrast.
Press "-" to decrease contrast.
Press and hold either button until your desired contrast is obtained.

TO ADJUST BRIGHTNESS

Press "+" to increase brightness.
Press "-" to decrease brightness.
Press and hold either button until your desired brightness is obtained.

TO ADJUST COLOR

Press "+" to increase color intensity.
Press "-" to decrease color intensity.
Press and hold either button until your desired color intensity is obtained.

TO ADJUST TINT

Press "+" to add green tint to the color tone.
Press "-" to add red tint to the color tone.
Press and hold either button until natural flesh tone is obtained.

TO ADJUST SHARPNESS

Press "+" for sharper picture.
Press "-" for softer picture.
Press and hold either button until your desired sharpness is obtained.

The above four PICTURE functions you have adjusted will be stored in the MEMORY mode of the PICTURE PREFERENCE function explained on the next page.

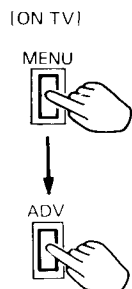
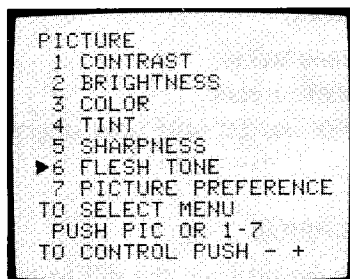
Note: Pressing the RESET button will reset the Picture adjustments back to the factory-preset level.

Details are on page 36.

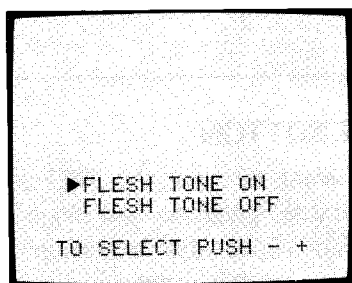
OPERATING FLESH TONE FUNCTION

This function allows you to obtain natural flesh tone by correcting the reference of tint between TV stations.

- 1 Select the PICTURE menu, then repeatedly press the PIC button or the "6" button until "6 FLESH TONE" is displayed in cyan.



- 2 Press the - or + button until "FLESH TONE ON" is displayed on the screen in magenta.



This function has now been activated.

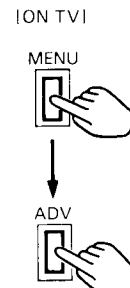
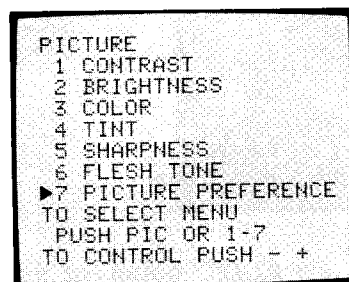
To deactivate this function, select "FLESH TONE OFF".

SELECTING PICTURE PREFERENCE FUNCTION

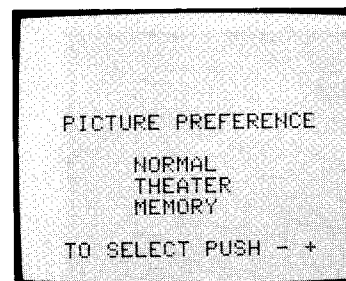
This function allows you to select the tone of the picture you like from among the three modes shown below.

- **NORMAL mode** — Reproduces optimum picture from original signal source. The picture quality preset at the factory.
- **THEATER mode** — Reproduces fine detail by reducing harshness and blooming. This mode should be viewed under darkened room brightness like that in a theater.
- **MEMORY mode** — Reproduces the picture quality you have adjusted last with the PICTURE functions on page 34.

- 1 Select the PICTURE menu, then repeatedly press the PIC button or the "7" button until "7 PICTURE PREFERENCE" is displayed in cyan.



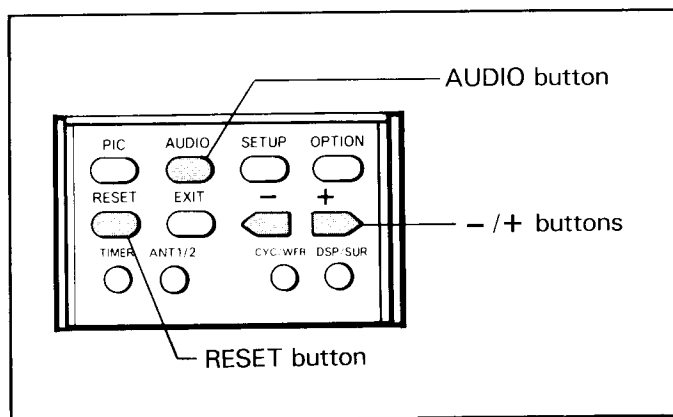
- 2 Press the - or + button until your desired mode is displayed in magenta.



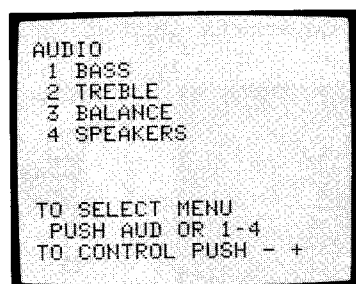
Note: Pressing the RESET button selects the NORMAL mode.

ADJUSTING AUDIO FUNCTIONS

You can adjust the AUDIO functions (BASS, TREBLE and BALANCE) to suit your personal preference.

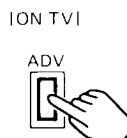
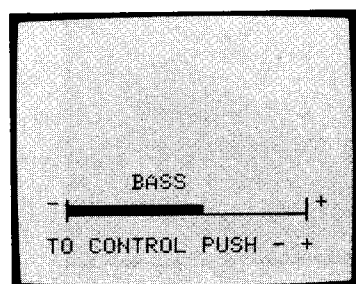


- 1 Press the AUDIO button on the Remote Control to display the AUDIO menu on the screen shown below.



- 2 Repeatedly press the AUDIO button or the Numbered button (1 to 4) to select function, then press the - or + button to adjust it.

< Example: BASS adjustment mode display >



If you continue to adjust any AUDIO functions, press the AUDIO button while the adjustment mode display remains on the screen. This is quick step approach for total audio adjustments.

TO ADJUST BASS

Press + to increase bass.

Press - to decrease bass.

Press and hold either button until your desired bass level is obtained.

TO ADJUST TREBLE

Press "+" to increase treble.

Press "-" to decrease treble.

Press and hold either button until your desired treble level is obtained.

TO ADJUST BALANCE

Press "+" to lower sound from the left speaker.

Press "-" to lower sound from the right speaker.

Press and hold either button until the sound seems to originate from a point halfway between the left and right speakers.

RESET BUTTON

If you want to reset the PICTURE and AUDIO adjustments back to the factory-preset level (CONTRAST to the maximum and all other functions at the center.), press the RESET button on the Remote Control.

The word "RESET" will be displayed on the screen for a few seconds as shown below.



The RESET button also resets the following functions.

- NOISE REDUCTION OFF mode
- PICTURE PREFERENCE NORMAL mode
- PIP CONTRAST Maximum setting

Note: The "4 SPEAKERS" function is explained on page 47.

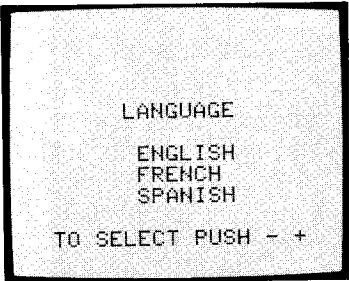
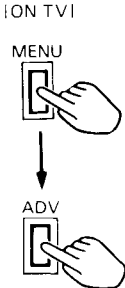
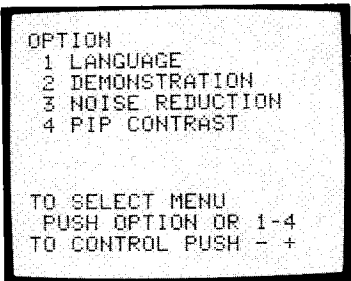
SELECTING LANGUAGE FUNCTION

Three different languages (ENGLISH, FRENCH and SPANISH) are available for the on-screen displays (adjustment menus, and messages), and you can choose the desired one.

- 1

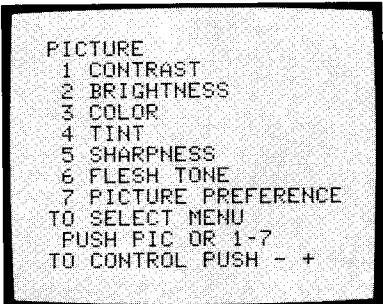
Press the OPTION button on the Remote Control to display the OPTION menu on the screen, then repeatedly press the OPTION button on the "1" button until "LANGUAGE" is displayed in cyan.
- 2

Press the - or + button to select your desired language. Each time you press the button, "ENGLISH", "FRENCH" or "SPANISH" mode will be selected in order.
The selected mode is displayed in magenta.

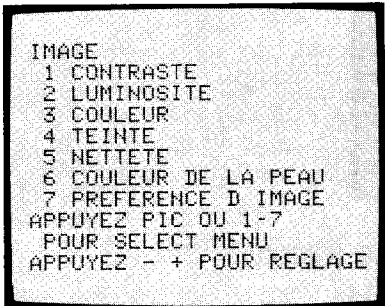


Example: PICTURE menu display

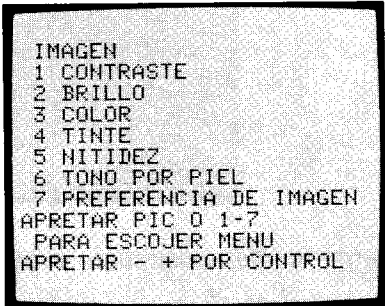
"ENGLISH"



"FRENCH"



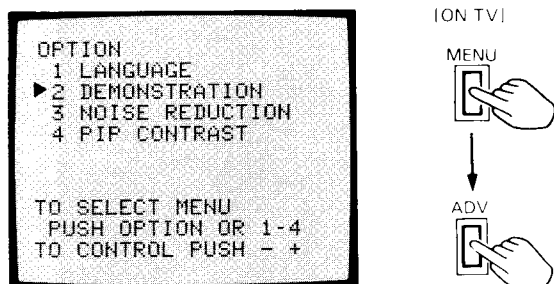
"SPANISH"



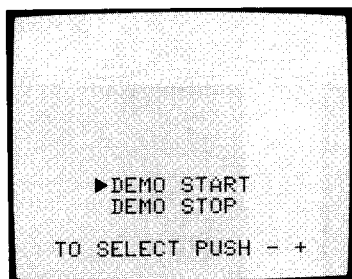
DEMONSTRATION FUNCTION

When this function is activated, your TV will automatically display a variety of its on-screen menus and special features. This function is provided for the Toshiba dealer. You may not need to use this function.

- 1 Press the OPTION button on the Remote Control to display the OPTION menu on the screen, then repeatedly press the OPTION button or the, "2" button until "2 DEMONSTRATION" is displayed in cyan.



- 2 Press the - or + button until the words "DEMO START" are displayed on the screen in magenta. The on-screen demonstration will start after about 6 seconds.



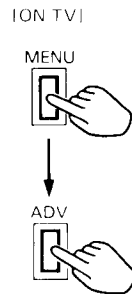
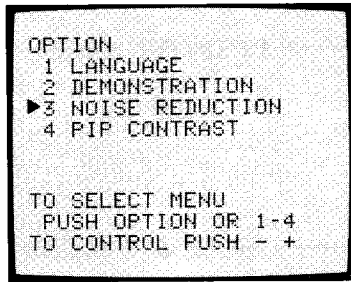
To stop the demonstration, select "DEMO STOP".

Note: The on-screen demonstration will continue, even if the TV is turned off and on, or any other buttons are pressed, until you stop it following the instructions here.

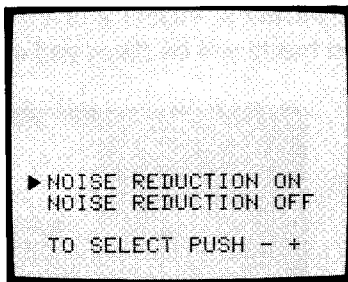
OPERATING NOISE REDUCTION FUNCTION

This function allows you to reduce visible interference in your TV picture. This is effective when playing back a video cassette or disc damaged by repeated use.

- 1 Press the OPTION button on the Remote Control to display the OPTION menu, then repeatedly press the OPTION button or the "3" button until "3 NOISE REDUCTION" is displayed in cyan.



- 2 Press the - or + button until the words "NOISE REDUCTION ON" are displayed on the screen in magenta.



This function has now been activated.

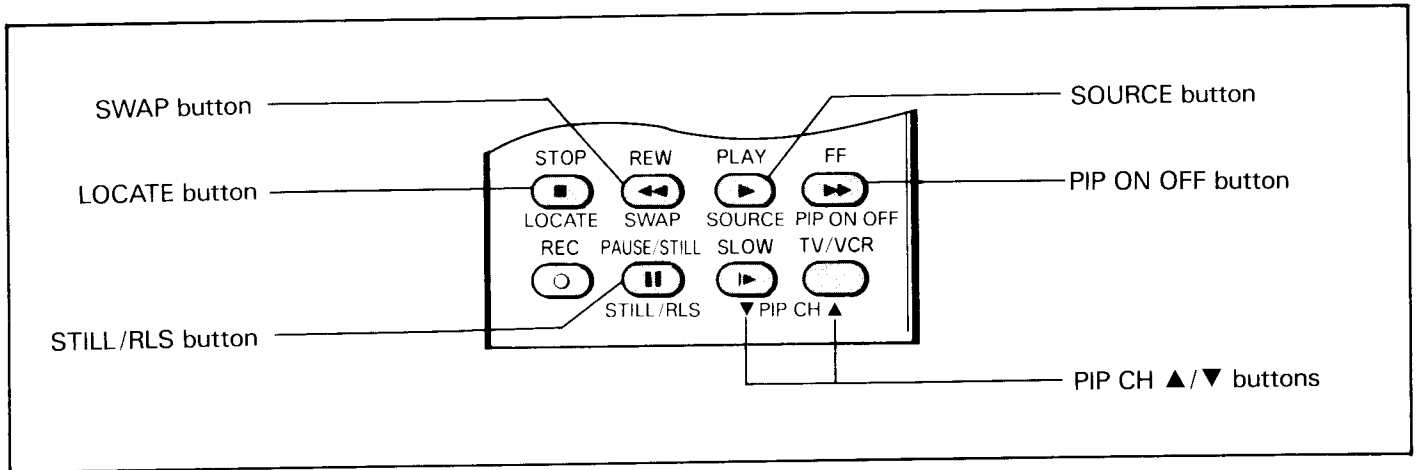
To deactivate this function, select "NOISE REDUCTION OFF".

Note: Pressing the RESET button deactivates this function (OFF mode).

WATCHING PICTURE IN PICTURE (PIP)

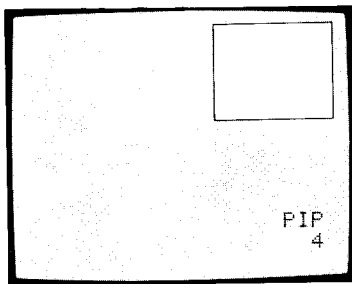
This feature allows you to watch more than one channel. Another TV channel or a video source can be displayed at the corner of the main screen as a sub picture. PIP is available from the Remote Control only.

Note: The signal sources from the ANT 2 terminal can not be displayed on the PIP screen.



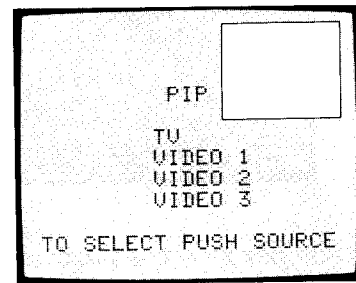
PIP ON OFF BUTTON

Press the PIP ON OFF button once to open up the PIP window. On-screen display will show signal source of PIP for about 2 seconds as shown below.



SOURCE BUTTON

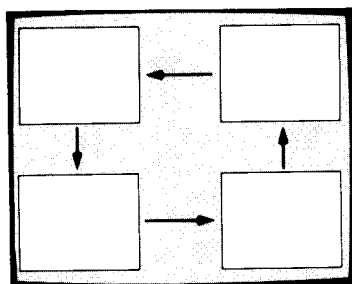
Press the SOURCE button repeatedly to select input source (TV, VIDEO 1, VIDEO 2 or VIDEO 3). The selected mode will be displayed in magenta.



Press the button again to erase the PIP.

LOCATE BUTTON

Press the LOCATE button to move PIP from corner to corner of the main screen. Each time you press the button, PIP will move in the following order.



PIP CH ▲/▼ BUTTON

Press the ▲ button to select the next higher channel in channel memory.

2→3---→68→69→2----

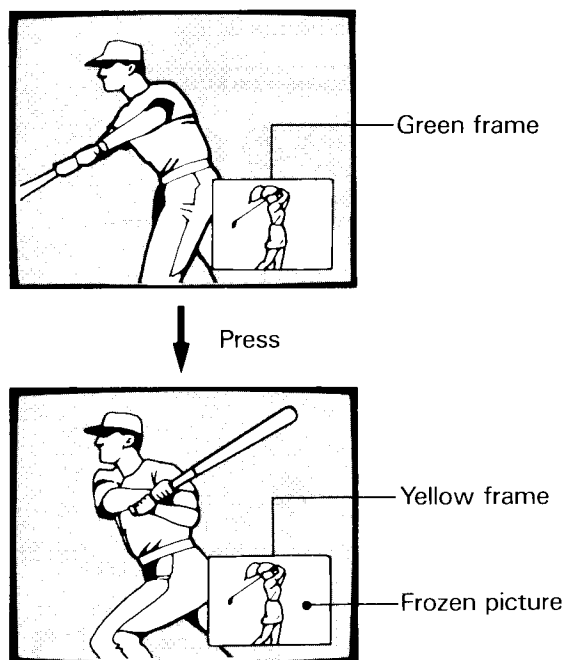
Press the ▼ button to select the next lower channel in channel memory.

69→68---→3→2→69----

STILL/RLS (Release) BUTTON

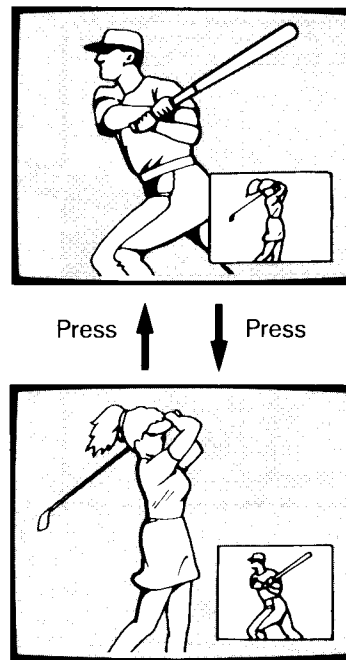
Press the STILL/RLS button once while PIP is on the screen to freeze the PIP picture.

To return to an action picture, press the button again.



SWAP BUTTON

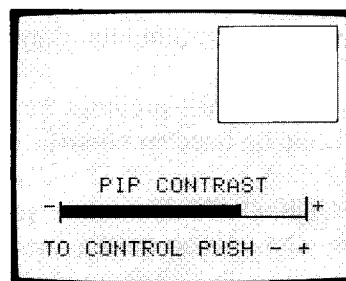
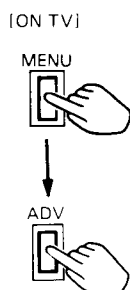
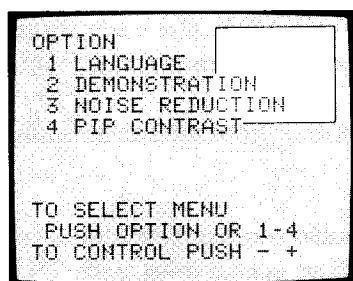
Press the SWAP button once to switch the PIP picture with the main picture.



TO ADJUST PIP CONTRAST

First press the PIP ON OFF button to display the PIP picture, then adjust the PIP contrast as follows:

- 1 Press the OPTION button on the Remote Control to display the OPTION menu on the screen, then repeatedly press the OPTION button or the "4" button until "4 PIP CONTRAST" is displayed in cyan.
- 2 Press the – or + button to call up the PIP CONTRAST adjustment on-screen display shown below.



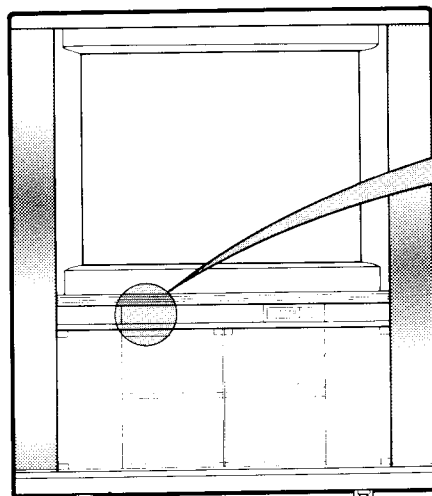
Press the + button to increase contrast.
Press the – button to decrease contrast.
Press and hold either button until your desired contrast is obtained.

Note: Pressing the RESET button resets your adjustment to the maximum (factory-preset level).

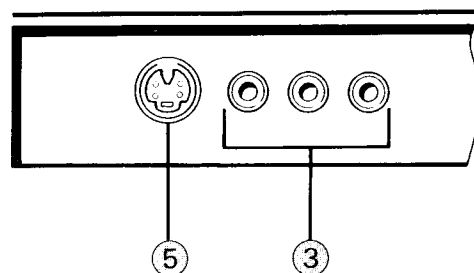
MONITOR PANEL

This TV set is equipped with S-VIDEO INPUT connector, VIDEO/AUDIO INPUT jacks, VIDEO/AUDIO OUTPUT jacks, VARIABLE AUDIO OUTPUT jacks, and EXTERNAL SPEAKER terminals for connecting your desired video/audio equipment.

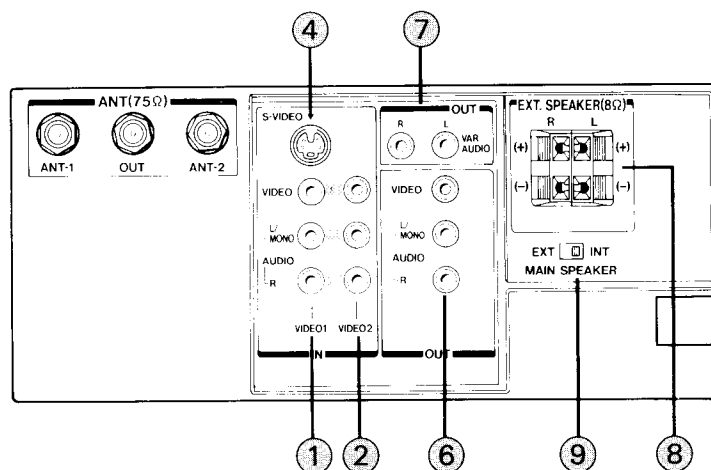
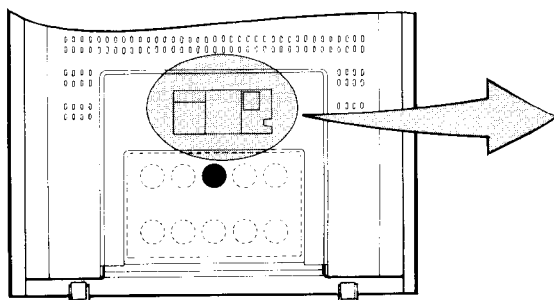
FRONT VIEW



Behind the door



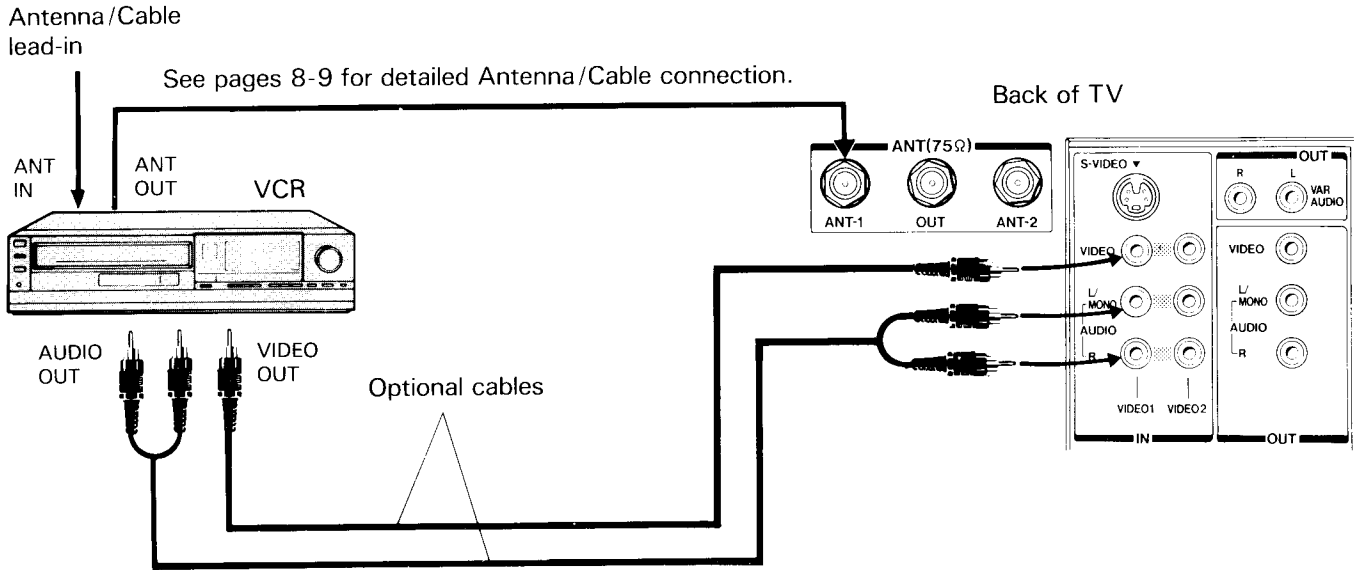
REAR VIEW



- ① ② **VIDEO 1/VIDEO 2/VIDEO 3 Jacks** — provide for direct connection of video devices (VCR, camcorder, etc.) with video/audio inputs. Connection details are on pages 43 and 45.
- ③
- ④ ⑤ **S-VIDEO Connector** — provides for direct S-video connection from S-VHS VCR. The TV's VIDEO 1 audio jacks can also be used to connect the VCR's audio cables. Connection details are on pages 44 and 45.
- ⑥ **VIDEO/AUDIO OUTPUT Jacks** — provide fixed-level audio and video output from whatever is displayed on the screen. Connection details are on pages 46 and 47.
- ⑦ **VARIABLE AUDIO OUTPUT Jacks** — feed volume-controlled stereo audio out from whatever is displayed on the screen, allows connection of audio amplifier and lets you adjust sound level with TV's remote. Connection details are on page 47.
- ⑧ **EXTERNAL SPEAKER Terminals** — provide for direct connection of external speakers. Connection details are on page 48.
- ⑨ **SPEAKER SELECT Switch** — lets you turn off TV's built-in speakers so that sound will instead come through speakers connected to EXTERNAL SPEAKER terminals. See page 48 for details.

CONNECTING STANDARD VCR

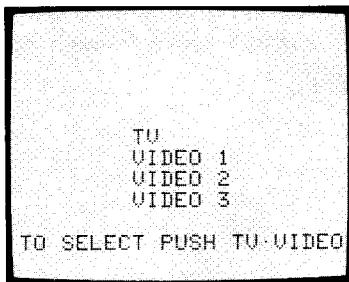
Connect VIDEO 1 or VIDEO 2 jacks to the video/audio output jacks of an installed VCR, Video Disc Player (VDP), etc. for playback of video material. The material being played back on the video equipment can be viewed on the TV screen.



SELECTING VIDEO SOURCES

To operate your TV normally, refer to the instructions furnished with the video equipment.

- 1 Turn the TV set and VCR (or VDP) ON.
- 2 Press the TV/VIDEO button on the Remote Control to select the VIDEO 1 mode:
Each time you press the button, TV, VIDEO 1, VIDEO 2 or VIDEO 3 mode will be selected in order.
The selected mode will be displayed in magenta.



(page 23)

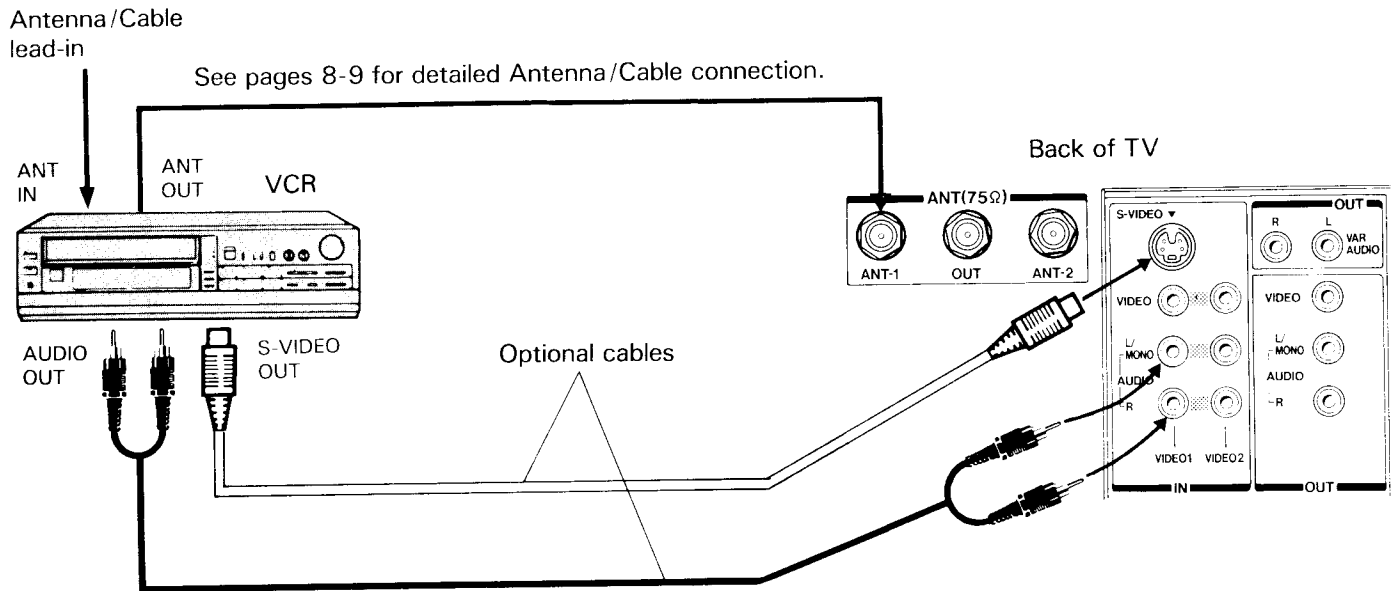
Notes:

- The VIDEO 2 inputs can also be used for connecting 2nd video equipment with video/audio outputs. To view the video sources from the VIDEO 2 jacks, select the VIDEO 2 mode by pressing the TV/VIDEO button.
- The VIDEO 3 inputs on the front panel are convenient to connect portable video/audio equipment. See page 45.
- If you connect a monaural VCR, connect the audio output of the VCR to the L/MONO jack, of VIDEO 1 on the TV set.

- 3 Operate your VCR (or VDP) normally.

CONNECTING VCR WITH S-VIDEO CONNECTOR

If you connect a VCR with an S-VIDEO connector to the "S-VIDEO" connector on the back of the TV, you must also connect the audio cables to the AUDIO jacks of "VIDEO 1" inputs on the back of the TV. The S-Video cable only carries the video signal. Audio signals are separate.



SELECTING VIDEO SOURCES

- 1 Turn the TV set and VCR ON.
- 2 Select the VIDEO 1 mode by pressing the TV/VIDEO button on the Remote Control (page 43) or the ANT/VIDEO button on the TV set (page 23).
- 3 Operate your VCR normally.

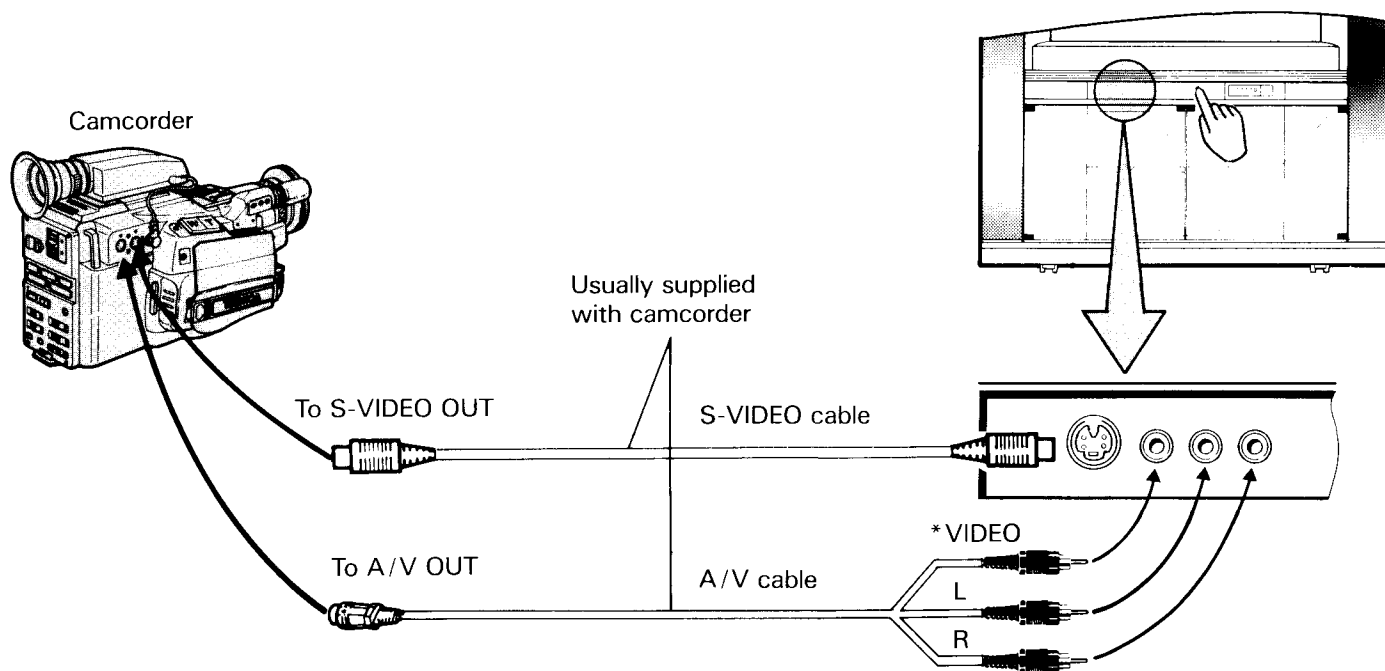
Notes:

- If you connect a monaural VCR, connect the audio output of the VCR to the L/MONO jack of VIDEO 1 on the TV set.
- Do not connect video equipment to both the "S-VIDEO" and "VIDEO" of VIDEO 1 terminals at the same time.
- The S-VIDEO terminal means separated Luminance/Chrominance (Y/C) signal terminal which conforms to NTSC video signal.

CONNECTING CAMCORDER

This connection allows you to play back tapes in the camcorder and watch them on the TV.

If you have an S-VIDEO camcorder, connect the S-VIDEO cable to the "S-VIDEO" jack of the "VIDEO 3" inputs. If you have a standard camcorder, connect the video cable to the "VIDEO" jack. With either video connection, connect the audio cables.



SELECTING VIDEO SOURCES

To operate your TV normally, see instructions supplied with the connecting camcorder.

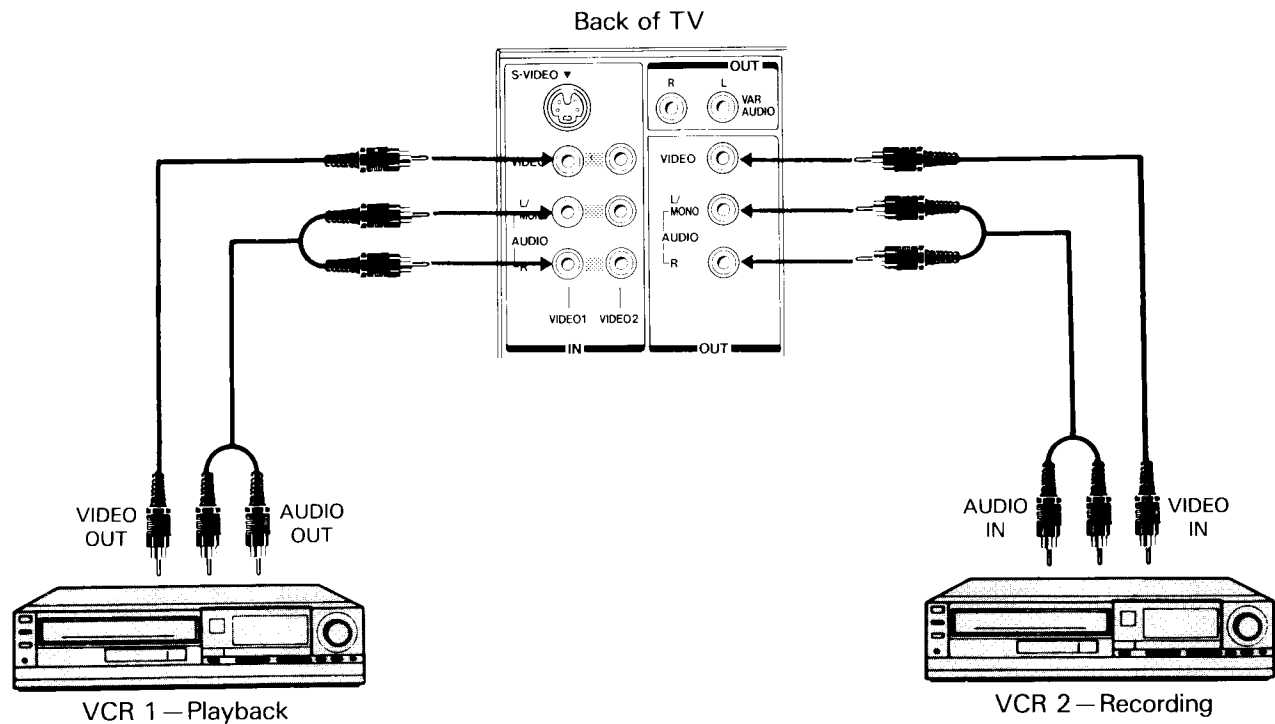
- 1 Turn the TV set and the camcorder ON. (The camcorder is in the VIDEO position.)
- 2 Select the VIDEO 3 mode by pressing the TV/VIDEO button on the Remote Control (page 43) or the ANT/VIDEO button on the TV set (page 23).
- 3 Operate your camcorder normally.

Notes:

- * When the S-VIDEO cable is connected to the "S-VIDEO" input, the Video plug does not have to be connected.
- If you connect a monaural camcorder, connect the audio output of the VCR to the L/MONO jack of VIDEO 3 on the TV set.

DUBBING/EDITING PROGRAMS WITH 2VCRs

To dub or edit your own video tapes between one VCR and another, connect the VCR that will play to the IN jacks on your TV set. Then connect the OUT jacks from your TV set to the input jacks on the recording VCR.



OPERATION (To monitor your dubbing/editing)

- 1 Turn the TV set and both VCR's ON.
- 2 Select the VIDEO 1 mode by pressing the TV/VIDEO button on the Remote Control (page 43) or the ANT/VIDEO button on the TV set (page 23).
- 3 Set the VCR 2 to record mode and the VCR 1 to play.
- 4 You can view the video material from the VCR 1 on your TV screen as you dub it to the VCR 2.

Notes:

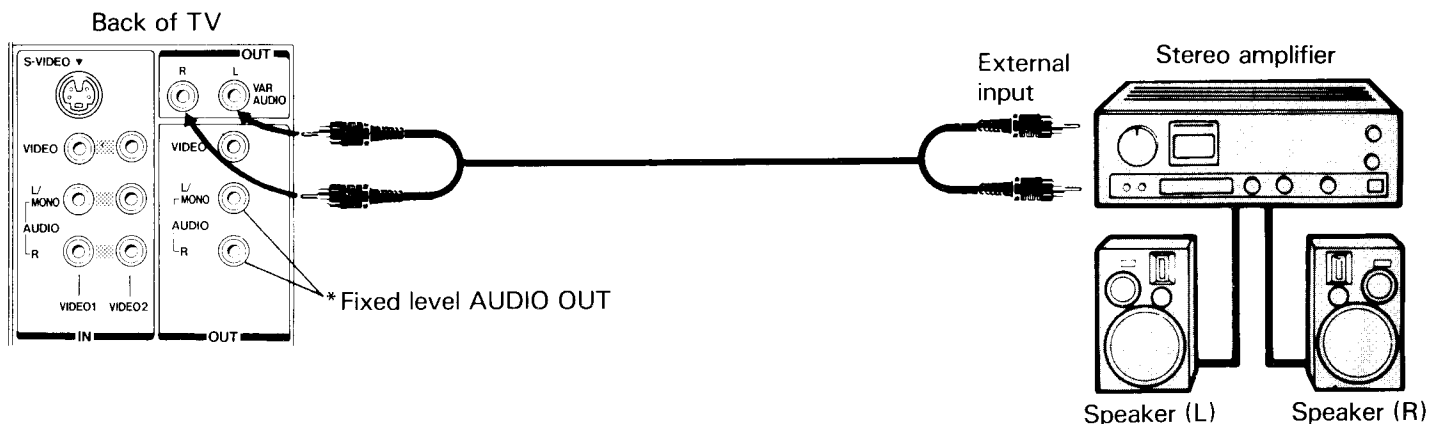
- The input switch of VCR is normally in the TV position. Change the switch of recording VCR to the LINE or CAMERA position when using the video/audio inputs of the VCR as above. Some VCR's automatically switch when the cables are plugged into the video/audio inputs.
- The VIDEO 2 and VIDEO 3 inputs can also be used for connecting the playback VCR.
- Do not connect the same VCR to output and input.
- The PIP picture cannot be output from the VIDEO OUTPUT.
- If your VCR is not cable-ready, you can record cable TV programs from the VIDEO/AUDIO OUTPUT jacks.

CAUTION:

The unauthorized recording of television programs, video tapes and other materials may infringe the provisions of the copyright laws.

CONNECTING AUDIO AMPLIFIER

Connect the VARIABLE AUDIO OUT jacks to the external input jacks on the stereo amplifier. You will be able to change and mute volume with the TV's remote control. You will also be able to control bass, treble and balance functions.



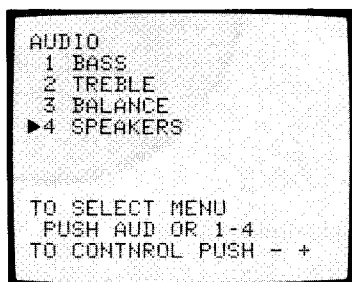
OPERATION

- 1 Turn the TV set and stereo amplifier ON.
- 2 Adjust the VOLUME control on the TV for a moderate listening level.
- 3 Disconnect the built-in speakers following the instructions below.
- 4 Adjust the volume control on the stereo amplifier for a moderate listening level.
- 5 Control of the audio can now be done using the audio function buttons (VOLUME, MUTE, BASS, TREBLE and BALANCE) on the TV's remote control.

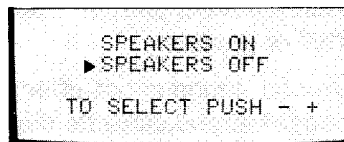
* The "fixed level" audio signal present at the AUDIO jacks of VIDEO/AUDIO OUT jacks is also ideal for connecting an audio cassette recorder (or amplifier) to record audio from the TV. This constant audio signal is not affected by pressing the VOLUME buttons on the TV or the TV's remote control.

TO DISCONNECT THE BUILT-IN SPEAKERS

- 1 Press the AUDIO button on the Remote Control to display the AUDIO menu on the screen, then repeatedly press the AUDIO button or the "4" button until "4 SPEAKERS" is displayed in cyan.



- 2 Press the - or + button to call up the SPEAKERS ON/OFF mode on-screen display shown below.



Press either button until "SPEAKERS OFF" is displayed in cyan.

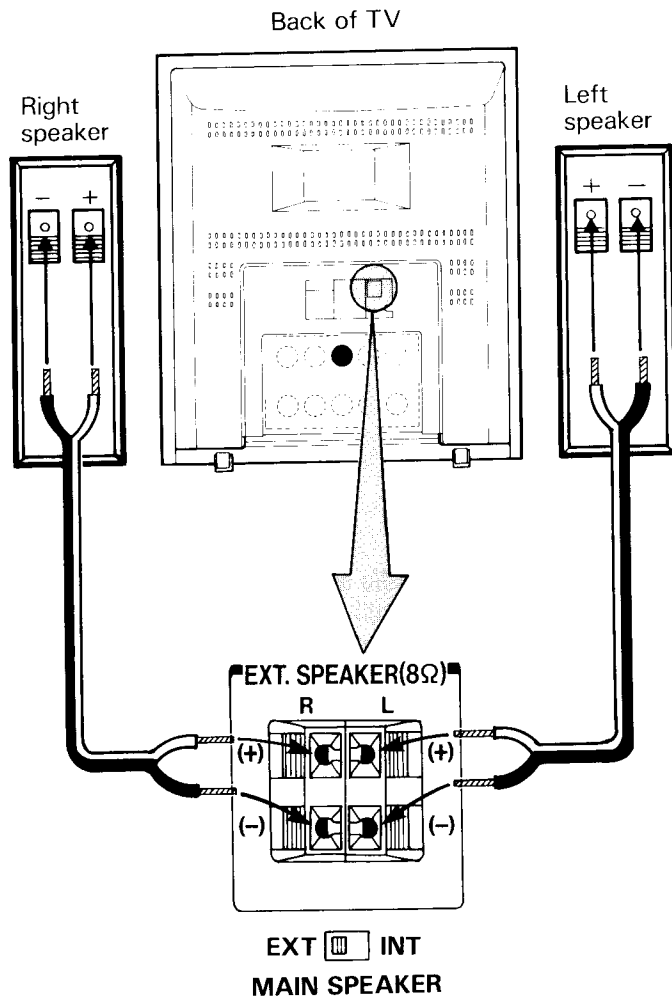
The built-in speakers have now been disconnected.

To resume the sound, select "SPEAKERS ON".

CONNECTING EXTERNAL SPEAKERS

You can connect speakers to the EXTERNAL SPEAKER terminals on the TV set to enhance sound from the TV.

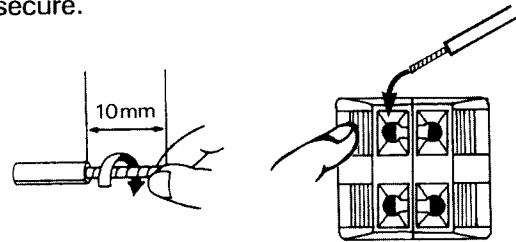
Note: Before connecting the external speakers, turn off your TV set.



1 Connect speaker leads

While pressing the button, insert the wire into the hole as shown below, and then release the button.

Pull firmly on the wire to make sure it is secure.



Note: Be sure to connect the Right speaker to the R (+) and (-) and the Left speaker to the L (+) and (-).

2 Set the SPEAKER SELECT switch

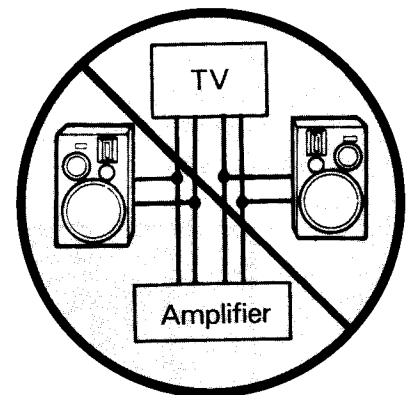
Push the switch to "EXT" side (left). The built-in speakers are disconnected.



CAUTION:

- Do not connect external speakers to more than one audio source at a time. If you connect the same speaker system to both the TV and the amplifier, you will damage your equipment.
- Use only external speakers with an impedance rating of 8 ohms and input power 10W or greater.

Note: The sub-woofer sound is not affected by the SPEAKER SELECT switch. If necessary, deactivate the sub-woofer. See page 29.



CLEANING AND CARE

WARNING: TV sets use High Voltage. Do not try to remove the cabinet back. Refer servicing to qualified service personnel.

- To clean the TV screen:

 1. First remove the plug from the power outlet to avoid possible shock hazard.
 2. Use a clean cellulose sponge or chamois cloth dampened with a solution of mild detergent and warm water to clean TV screen and trim. Do not use too much water on the TV screen.
 3. Remove any extra moisture with the same cloth or a dry one.
- To maintain the finish and appearance of the cabinet, polish it from time to time with a quality furniture polish.

Note: Never use strong solvents such as thinner, benzene or other chemicals on or near cabinet, as they might damage the finish of the cabinet.

SPECIFICATIONS

TELEVISION SYSTEM:	NTSC standard
CHANNEL COVERAGE:	VHF; 2 through 13 UHF; 14 through 69 Cable TV; mid band (A-8 through A-1, A through I) super band (J through W) hyper band (AA through ZZ, AAA, BBB) ultra band (65 through 94, 100 through 125)
POWER SOURCE:	120V AC, 60Hz
POWER CONSUMPTION:	140W (average)
AUDIO POWER:	Main; 10W+10W Sub-woofer; 13W
SPEAKER TYPE:	Main; Two 2-3/4" × 5-1/8" square Sub-woofer; One 4-3/4" round
VIDEO/AUDIO TERMINALS:	S-VIDEO INPUT Y-INPUT: 1V-p, 75 ohm, negative sync. C-INPUT: 0.286Vp-p (burst signal), 75 ohm VIDEO 1/VIDEO 2/VIDEO 3 INPUT VIDEO: 1Vp-p, 75 ohm, negative sync. AUDIO: 150mVrms. (30% modulation, 47k ohm) VARIABLE AUDIO OUTPUT 0 ~ 350mVrms. (30% modulation, 4.7k ohm) EXTERNAL SPEAKER TERMINALS Accept speakers of impedance 8 ohm, input power 10W or greater
DIMENSIONS:	Width 39-3/8 inches (1000mm) Height..... 45-43/64 inches (1160mm) Depth 23-5/32 inches (588mm)
WEIGHT:	234lbs (106.4kg)

Design and specifications are subject to change without notice.

BEFORE CALLING SERVICE PERSONNEL

Before calling service personnel, please check the following chart for a possible cause of the problem you are experiencing. A minor adjustment on your part may eliminate the problem and restore your TV reception.

Symptoms	Check	Adjustments
● No picture, no sound	<ul style="list-style-type: none"> ● Be sure power cord is plugged in. ● May be station trouble. ● Check antenna connections. ● Check antenna for broken wires. 	<ul style="list-style-type: none"> ● Press POWER button. ● Try another channel.
● No sound, picture OK	<ul style="list-style-type: none"> ● May be station trouble. ● Check if SPEAKERS ON/OFF function (page 47) or SPEAKER SELECT switch (page 48) is properly set. 	<ul style="list-style-type: none"> ● Try another channel. ● Adjust VOLUME.
● Poor sound, picture OK	<ul style="list-style-type: none"> ● May be station trouble. ● Check antenna connections. ● May be local interference from appliance. 	<ul style="list-style-type: none"> ● Try another channel. ● Adjust VOLUME. ● Adjust BASS, TREBLE, or BALANCE control. ● Re-orient antenna.
<ul style="list-style-type: none"> ● Poor picture, sound OK Snowy picture Lines in picture Distorted picture Weak picture 	<ul style="list-style-type: none"> ● May be local interference from appliance. ● Check antenna connections. ● Check antenna for broken wires. ● May be station trouble. 	<ul style="list-style-type: none"> ● Try another channel. ● Adjust BRIGHTNESS. ● Adjust CONTRAST. ● Adjust SHARPNESS. ● Re-orient antenna.
● Poor reception of broadcast channels	<ul style="list-style-type: none"> ● Check antenna connections. ● Check antenna for broken wires. ● If VCR is connected, check TV/VCR switch. 	<ul style="list-style-type: none"> ● Try another channel. ● Re-orient antenna.
● No UHF, VHF OK	<ul style="list-style-type: none"> ● Be sure TV·CABLE function (page 24) is in "TV" mode. 	
● Unable to select a certain channel	<ul style="list-style-type: none"> ● That channel may be locked out with CH LOCK function (page 31). 	
● Multiple images (ghosts)	<ul style="list-style-type: none"> ● May be station trouble. ● Check antenna connections. 	<ul style="list-style-type: none"> ● Try another channel. ● Re-orient antenna.
● Poor color or No color	<ul style="list-style-type: none"> ● May be station trouble. ● Check antenna connections. ● Check antenna for broken wires. ● May be local interference from appliance. ● Check if station is broadcasting in color. 	<ul style="list-style-type: none"> ● Try another channel. ● Re-orient antenna. ● Adjust TINT. ● Adjust COLOR.
● Weak and noisy stereo program	<ul style="list-style-type: none"> ● Check antenna connections. ● Check antenna for broken wires. 	<ul style="list-style-type: none"> ● Re-orient antenna. ● Try pressing MTS button in MONAURAL mode.
● No stereo or SAP sound from a known MTS broadcast	<ul style="list-style-type: none"> ● Check if MTS button is properly set. 	
● Remote control does not work	<ul style="list-style-type: none"> ● Check if CABLE, VCR or TV button is properly set. ● Be sure power cord is plugged in. ● Check battery in Remote Control. 	<ul style="list-style-type: none"> ● Change batteries.

LIMITED WARRANTY

Toshiba America Consumer Products, Inc. ("TACP") and Toshiba Hawaii Inc. ("THI") make the following limited warranties. These limited warranties extend to the original consumer purchaser or any person receiving this set as a gift from the original consumer purchaser and to no other purchaser or transferee.

Limited One (1) Year Warranty

TACP and THI warrant this product and its parts against defects in materials or workmanship for a period of one (1) year after the date of original retail purchase. During this period, TACP and THI will repair a defective product or part, without charge to you. Service on this product will be made available to you in your home.

Limited Two (2) Year Warranty of Picture Tube

TACP and THI further warrant the picture tube in this product against defects in materials or workmanship for a period of two (2) years after the date of original retail purchase. During this period, TACP and THI will replace a defective picture tube without charge to you, except that if a defective picture tube is replaced after one (1) year from the date of the original retail purchase, you pay labor charges involved in the replacement.

Owner's Manual and Registration Card

You should read this owner's manual thoroughly before operating this product. You should also insure that your name and address are on file as owner's of a TACP/THI product by completing and mailing the enclosed registration card within ten days after you, or the person who has given you this product as a gift, purchased this product. This one way to enable TACP/THI to provide you with better customer service and improved products. Failure to return the card will not affect your rights under this war-

ranty so long as you retain other proof of purchase such as a bill of sale.

Your Responsibility

The above warranties are subject to the following conditions:

- (1) You must retain your bill of sale or provide other proof of purchase.
- (2) All warranty servicing of this product must be made by an Authorized TACP/THI Service Station.
- (3) These warranties are effective only if the product is purchased and operated in the U.S.A.
- (4) Labor service charges for set installation, set up, adjustment of customer controls and installation or repair of antenna systems are not covered by this warranty. Reception problems caused by inadequate antenna systems are your responsibility.
- (5) Warranties extend only to defects in materials or workmanship as limited above and do not extend to any product or parts which have been lost or discarded by you or to damage to products or parts caused by misuse, accident, improper installation, improper maintenance or use in violation of instructions furnished by us; or to units which have been altered or modified without authorization of TACP/THI or to damage to products or parts thereof which have had the serial number removed, altered, defaced or rendered illegible.

Step-By-Step Procedures — How to Obtain Warranty Service

If, after following all of the operating instructions in this manual and checking the section "BEFORE CALLING SERVICE PERSONNEL", you find that service is needed:

- (1) Contact one of the TACP/THI Service Centers listed below for warranty service or call the TACP toll free number **800-631-3811** within thirty (30) days after you find a defective product or part to find the nearest TOSHIBA Authorized Service Station or authorized TOSHIBA Dealer.
- (2) Please present your bill of sale or other proof to the Authorized Service Station. Service on this product will be made available to you in your home.
- (3) If you have any question about service, please contact one of the following TACP/THI Service Centers:

NORTHEAST

82 Totowa Road,
Wayne,
New Jersey 07470

MIDWEST

1010 Johnson Drive,
Buffalo Grove,
Ill. 60089-6900

WEST

5490 E. Francis St.,
Ontario, CA 91761

SOUTHEAST

6115 Jimmy Carter Blvd.,
Suite C2, Norcross,
GA 30072-4607

SOUTHWEST

1421 Champion Drive,
Suite 304
Carrollton, TX 75006

HAWAII

327 Kamakee Street,
Honolulu, HI 96814

IN THE CONTINENTAL UNITED STATES
Should your unit require service, Call



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IN NO EVENT SHALL TACP OR THI BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you.

No person, agent, distributor, dealer, service station or company is authorized to change, modify or extend the terms of these warranties in any manner whatsoever. The time within which an action must be commenced to enforce any obligation of TACP and THI arising under this warranty or under any statute, or law of the United States or any state thereof, is hereby limited to one year from the date you discover or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law. Some states do not permit limitation of the time within which you may bring an action beyond the limits provided by state law so the above provision may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Before calling service personnel / Limited warranty

REFERENCE SECTION

TOSHIBA AMERICA CONSUMER PRODUCTS, INC.

HEAD OFFICE/82 TOTOWA ROAD, WAYNE, NEW JERSEY 07470 PHONE: (201) 628-8000

FACTORY SERVICE CENTERS/NORTHEAST: 82 TOTOWA ROAD, WAYNE, NEW JERSEY 07470 PHONE: (201) 628-8000

MIDWEST: 1010 JOHNSON DRIVE, BUFFALO GROVE, ILLINOIS 60089-6900 PHONE: (708) 541-9400

WEST: 5490 E. FRANCIS ST., ONTARIO, CALIFORNIA 91761 PHONE: (714) 988-5303

SOUTHWEST: 1421 CHAMPION DRIVE, SUITE 304 CARROLLTON, TEXAS 75006 PHONE: (214) 243-1367

SOUTHEAST: 6115 JIMMY CARTER BLVD., SUITE C2, NORCROSS, GEORGIA 30072-4607
PHONE: (404) 242-7500

TOSHIBA HAWAII, INC.

HEAD OFFICE/327 KAMAKEE STREET, HONOLULU, HAWAII 96814, U.S.A. PHONE: (808) 521-5377

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